



Service Manual

• KEH-M6300/EW



ORDER NO.
CRT1383

MULTI-CD CONTROL FM/MW/LW TUNER DECK AMPLIFIER

KEH-M6300 EW, IT

KEH-M6300SDK WG

MULTI-CD CONTROL FM/AM TUNER DECK AMPLIFIER

KEH-M6200 UC

KEH-M6250 ES

Note:

- See the separate manual CX-197 (CRT1328) for the cassette mechanism description.
- Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
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SAFETY INFORMATION (UC MODEL)

CAUTION

This service manual is intended for qualified service technicians; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual.

Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

Lead in solder used in this product is listed by the California Health and Welfare agency as a known reproductive toxicant which may cause birth defects or other reproductive harm (California Health & Safety Code, Section 25249.5). When servicing or handling circuit boards and other components which contain lead in solder, avoid unprotected skin contact with the solder. Also, when soldering do not inhale any smoke or fumes produced.

SPECIFICATIONS (KEH-M6300/EW)

General

Power source	14.4 V DC (10.8 – 15.6 V allowable)
Grounding system	Negative type
Max. current consumption	4.5 A
Dimensions (chassis)	180 (W) x 50 (H) x 150 (D) mm
(front face)	188 (W) x 58 (H) x 19 (D) mm
Weight	1.5 kg

Amplifier

Maximum power output	25 W x 2 (EIAJ)
Continuous power output	11 W x 2 (1% dist. at 1 kHz)
Load impedance	4 Ω (4 – 8 Ω allowable)
Max. output level/output impedance (preout)	500 mV/1 kΩ
Tone controls (bass)	±10 dB (100 Hz)
(treble)	±10 dB (10 kHz)
Loudness contour	+12 dB (100 Hz), +7 dB (10 kHz) (Volume: -30 dB)

Tape player

Tape	Compact cassette tape (C-30 – C-90)
Tape speed	4.76 cm/sec. (+0.14 cm/sec., -0.05 cm/sec.)
Fast forward/rewind time	Approx. 100 sec. for C-60
Wow & flutter	0.13 % (WRMS)
Frequency response	Metal: 40 – 17,000 Hz (±3 dB)
Stereo separation	45 dB

Signal-to-noise ratio

..... Metal: Dolby B NR IN: 63 dB (IEC-A network)
..... Dolby NR OUT: 55 dB (IEC-A network)

FM tuner

Frequency range	87.5 – 108 MHz
Usable sensitivity	11 dBf (1.0 μV/75 Ω, mono, S/N: 30 dB)
50 dB quieting sensitivity	16 dBf (1.7 μV/75 Ω, mono)
Signal-to-noise-ratio	70 dB (IEC-A network)
Distortion	0.3 % (at 65 dBf, 1 kHz, stereo)
Frequency response	30 – 15,000 Hz (±3 dB)
Stereo separation	40 dB (at 65 dBf, 1 kHz)

MW tuner

Frequency range	531 – 1,602 kHz
Usable sensitivity	18 μV (25 dB) (S/N: 20 dB)
Selectivity	50 dB (±9 kHz)

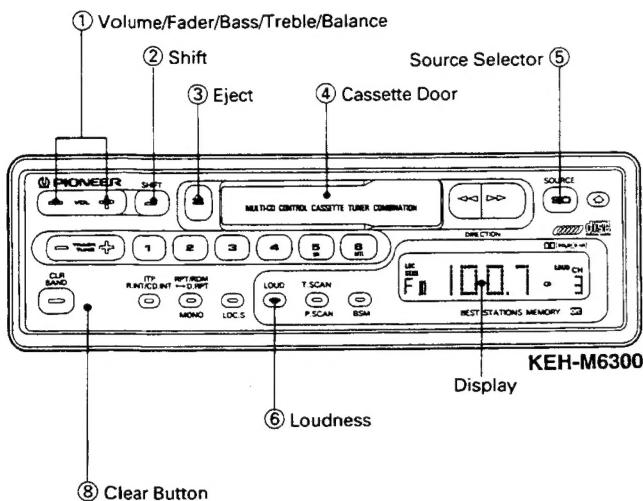
LW tuner

Frequency range	153 – 281 kHz
Usable sensitivity	30 μV (30 dB) (S/N: 20 dB)
Selectivity	50 dB (±9 kHz)

Note:

Specifications and the design are subject to possible modification without notice due to improvements.

2. ADJUSTING VOLUME AND TONE



Using the Clear Button

Once all wiring is complete, press button ⑧ with a thin, pointed object. Though not a normal occurrence, the microprocessor which controls the operation of this unit can be affected by electrostatic noise. This generally is indicated by such symptoms as no power being supplied when you switch the unit on, failure of buttons and controls, or an abnormal display. Should this happen, press button ⑧ with a thin, pointed object to reset the microprocessor.

Switching Power On

Radio

Press button ⑤ to switch the tuner power on. Press button ⑤ again to switch the power off.

Tape

Insert the cassette tape through the Cassette Door ④, and the power will be automatically turned on to get the tape start being played back. To eject the tape, press the button ③.

Changing the Source

When the cassette tape is inserted, the source changes at each press of the button ⑤: Tape — Radio — OFF. When a Multi-Play CD player — optionally available Multi-Play CD Player CDX-M40, for example — is connected to your unit, the source changes: Multi-Play CD Player — Tape — Radio — OFF.

Adjusting Volume/Fader/Bass/Treble/Balance

To adjust volume, press the button ①. The display changes at each press of the button ②: Volume — Fader — Bass — Treble — Balance. Press the button ① to adjust the displayed mode.

Adjusting Volume

Pressing the (+) side of button ① increases the volume, while the (-) side decreases it.

Adjusting the Fader

KEH-M6300:

This function controls the balance between the front and rear speakers of a 4-speaker system. Pressing the (-) side of button ① shifts the balance to the front speakers, while the (+) side shifts it to the rear speakers. In the case of a 2-speaker system, set the display to "F-R0" (or "F-F0").

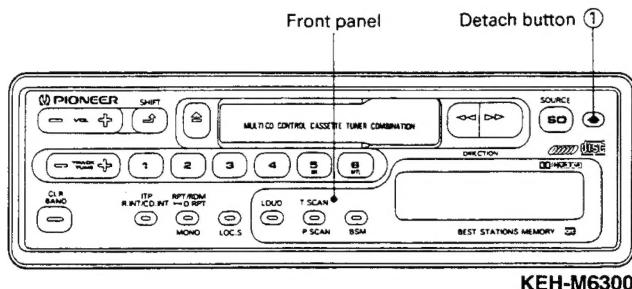
41 - 15

1. USING THE REMOVABLE FRONT PANEL

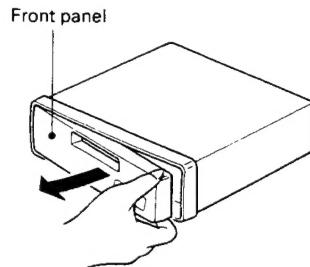
The front panel of this unit can be removed to prevent theft.

Detaching the Front Panel

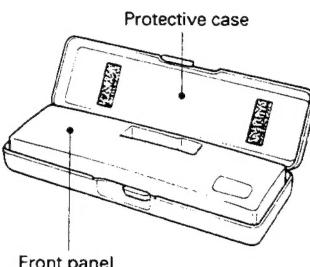
1. Press button ①, and the right-hand side of the panel will eject.



2. To remove the front panel, pull its right-hand side toward you.



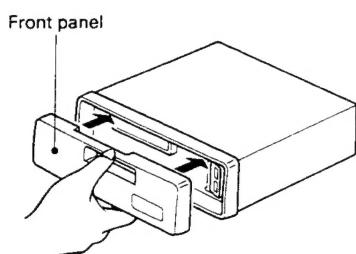
- Take care not to put pressure on the display or drop the front panel.
- 3. Enclose for safekeeping the front panel that is removed in the supplied protective case.



Replacing the Front Panel

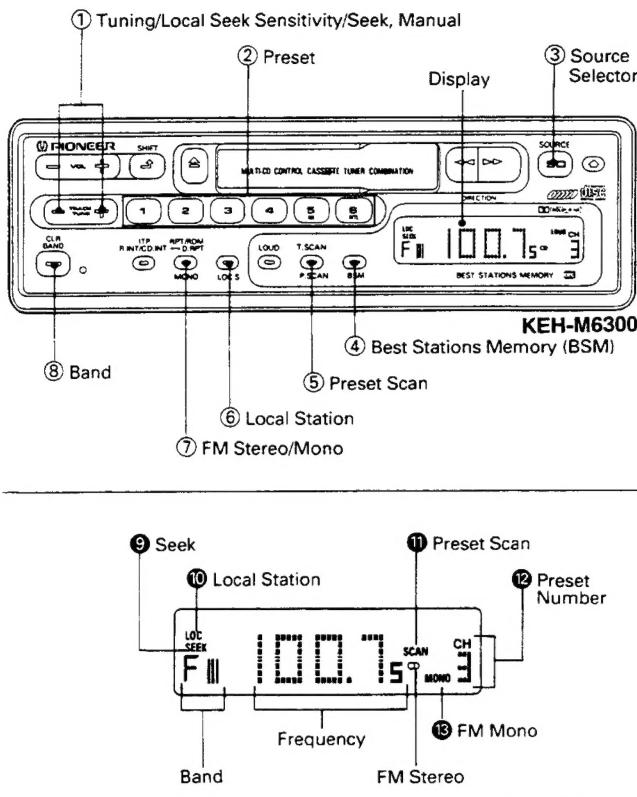
Push the front panel into the main body.

- When replacing the front panel, do not put pressure on the display or control buttons.



- Note that if the front panel is not attached correctly, pushing button ① may not release the panel, and the other control buttons may not function.

3. USING THE RADIO



1 Press button ③ to switch the radio power on.

2 Press button ⑧ to select a band.

F1 → F2 → F3 → M/L

(FM1) (FM2) (FM3) (MW/LW)

Use Button ① to switch between MW (531–1,602 kHz) and LW (153–281 kHz).

3 Use seek tuning to tune in a frequency.

Confirm that the SEEK indicator ⑨ is shown on the display (if not, press the (+) and (-) sides of button ① at the same time). Press the (+) side of button ① to automatically tune in the next higher receivable frequency, and the (-) side for a lower frequency.

4 Adjust volume and tone

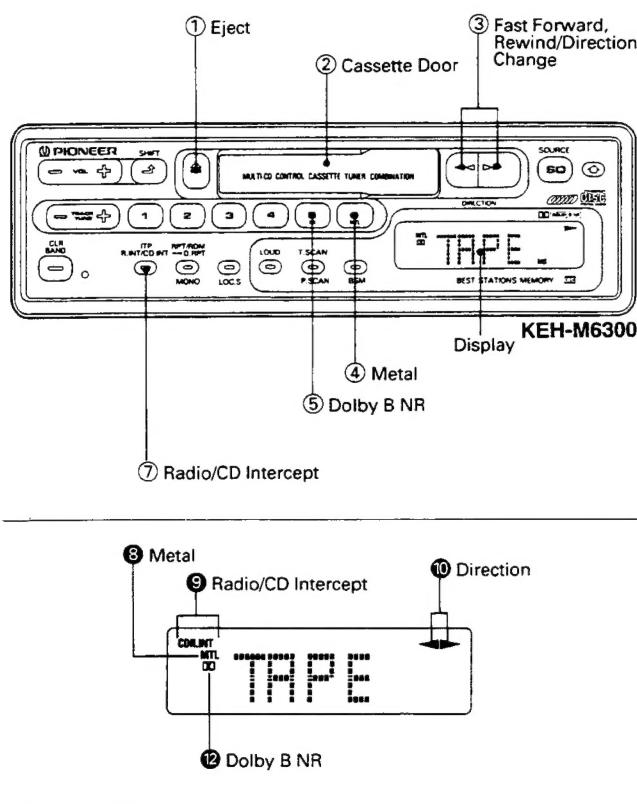
5 Assign the tuned frequency to one of the buttons in Bank ② (preset memory).

Press and hold down one of the buttons in Bank ② for at least two seconds. The frequency is assigned to the selected button when the preset number ⑫ stops flashing on the display. Up to 18 FM stations (6 each for FM1, FM2 and FM3), and six MW/LW stations can be assigned to the preset memory buttons in Bank ②.

6 Once a frequency is assigned to a button in Bank ②, you just need to press that button to tune it in.

This also causes the number of the button pressed to appear at position ⑫ on the display.

4. USING THE TAPE DECK



1 Insert the cassette tape into the slot ②, and power will be turned on and the tape begin being played back.

At this time, the tape running direction indicator ⑩ will light up.

2 Adjust volume and tone

3 To eject the cassette tape, press the button ①

A loose or warped label on a cassette tape may interfere with the eject mechanism of the unit or cause the cassette to become jammed in the unit. Avoid using such tapes or remove such labels from the cassette before attempting use.

Do not try to eject the cassette immediately after insertion, as it will cause malfunction. Wait a few seconds.

Changing Program

Push the fast forward and rewind buttons ③ together to switch from one side of the tape to the other (from Side A to Side B or vice versa).

Using Fast Forward and Rewind

Since the transport can be in either direction, both the left and right high-speed tape transport buttons ③ can be regarded as fast forward/rewind buttons.

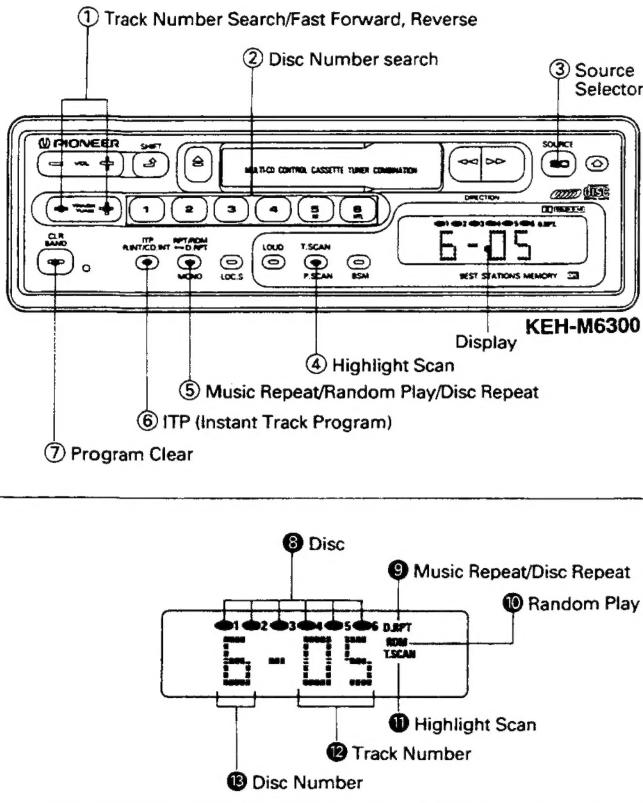
For fast forward, press the high-speed tape transport button ③ that corresponds to the direction that is shown by the direction indicator ⑩.

When the end of the tape is reached, playback will automatically begin from the opposite side of the tape (Auto-reverse).

For rewind, press the button ③ that is opposite that of the direction shown by the direction indicator ⑩. When the end of the tape is reached, playback will automatically begin from the beginning of the same side of the tape (Auto-replay).

Fast forward and rewind can be terminated by pressing the respective opposite high-speed tape transport button ③.

5. PLAYING COMPACT DISCS



1 Press button ③ to change the display to the Multi-Play CD player mode and to begin disc play.

Each press of button ③ changes the mode as follows:
Multi-Play CD player — Tape — tuner — OFF

2 Use the Disc Number Search function to select a disc.

Select the desired disc by pressing one of the buttons in Bank ②. The number of the disc selected appears at position ⑬ on the display.

- Display ⑧ indicates whether the magazine is loaded or empty.
- If the number at position ⑬ on the display does not change when you press a button in Bank ②, it means that there is no disc loaded in that tray.

3 Use Track Number search to select a track.

Confirm that Track Number is shown at Position ⑫ on the display.

If not, press the (+) and (-) sides of button ① at the same time. Press the (+) side of button ① to increase the number at Position ⑫, or the (-) side to decrease the number. Holding either side of button ① down changes the track number at high speed.

4 Adjust volume and tone

5 To stop disc play, press button ③.

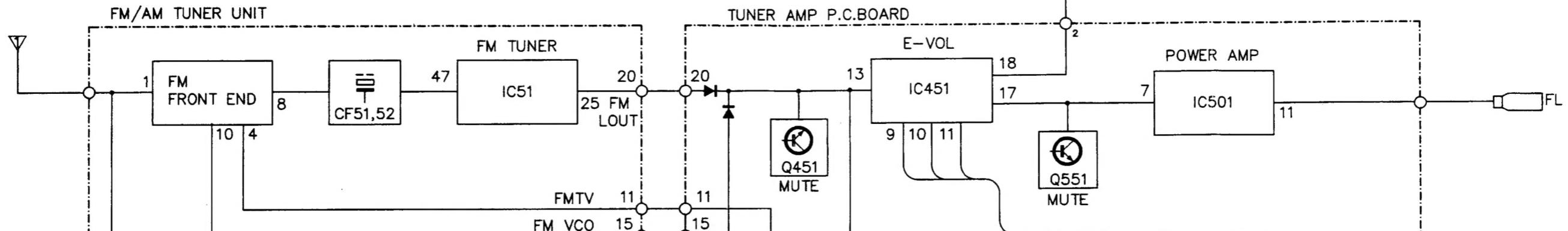
At another press, the normal play resumes from about where it stopped.

- If you stopped operating a Multi-Play CD Player CDX-M100 in the middle of music and then restarted, the player resumes playing from the very beginning of the selection with which you stopped.

1 2 3 4 5 6

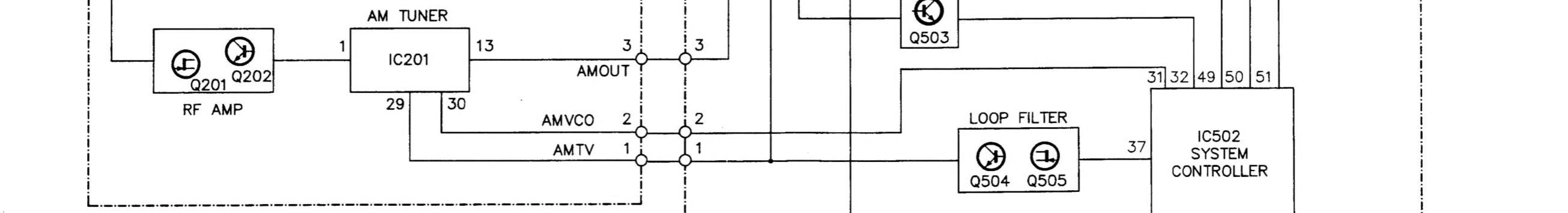
6. BLOCK DIAGRAM

A



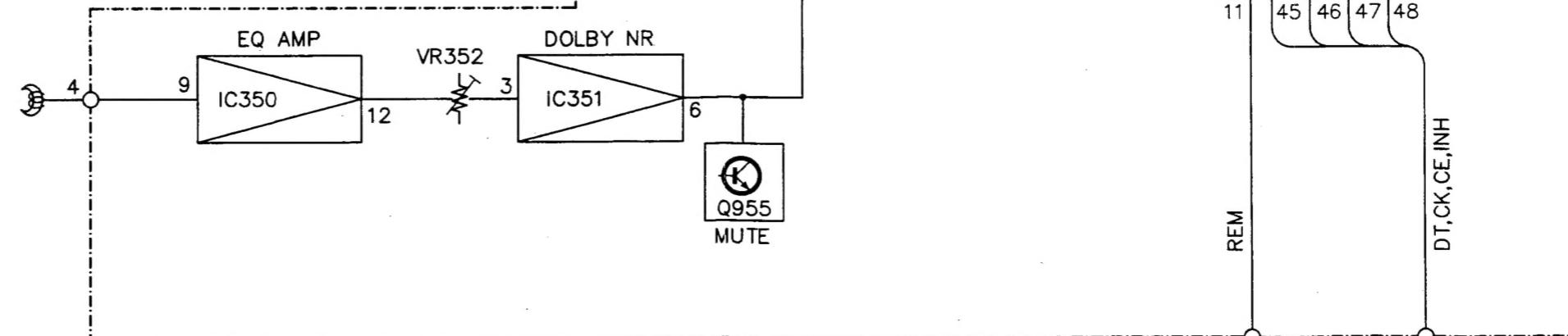
A

B



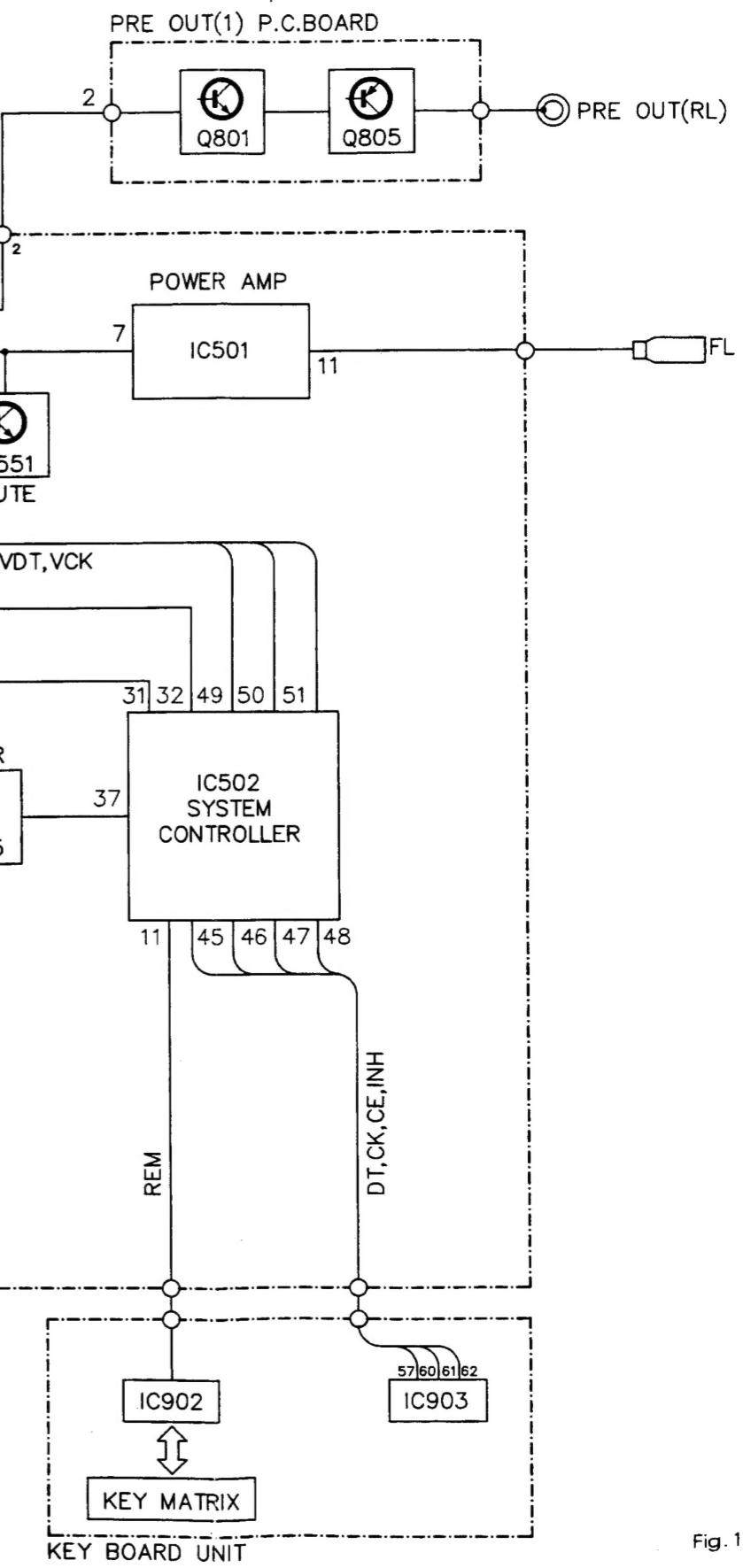
B

C



C

D



D

1 2 3 4 5 6

7. DISASSEMBLY

- Removing the case

1. Insert and turn a screwdriver at locations indicated by arrows to remove the case.

- Removing the grille assy

1. Press the detach button, and then pull grille assy.

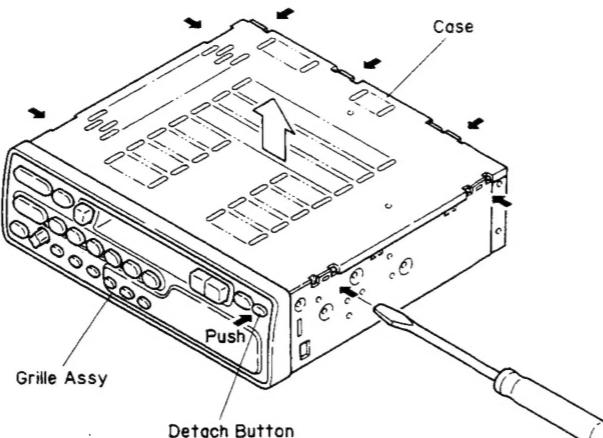


Fig. 2

- Removing the cassette mechanism assy

1. Remove the four screws.
2. Disconnect the connector.
3. Remove the cassette mechanism assy.

- Removing the panel assy

1. Remove the two screws.
2. Disconnect the connector.
3. Remove the panel assy.

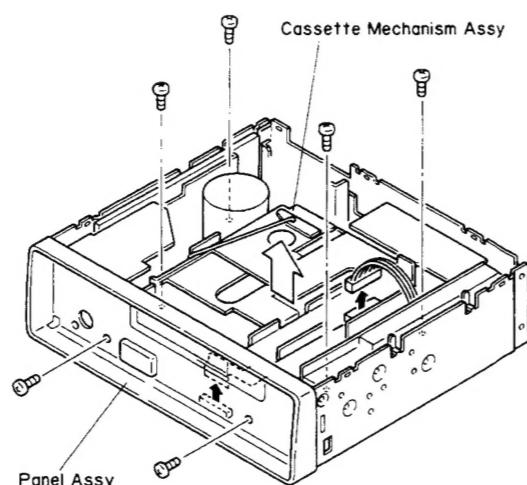


Fig. 3

- Removing the chassis unit

1. Remove the five screws.
2. Remove the antenna plug.
3. Remove the chassis unit.

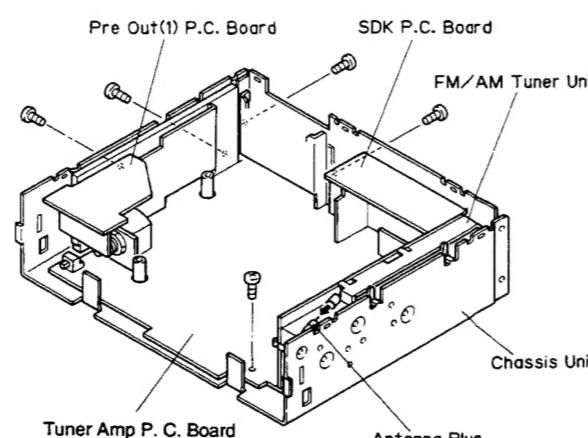


Fig. 4

8. ADJUSTMENT

8.1 TEST MODE

Test mode is mainly used in adjustment of CD multi-players.

- Switching to test mode

While pressing the 4,6 keys together, switch the back-up and the ACC ON.

- Canceling test mode

While pressing the CD multi-player clear button, switch the this unit back-up and ACC OFF.

- Key functions during test mode

The CD multi-player, deck, and tuner are selected by the SOURCE button.

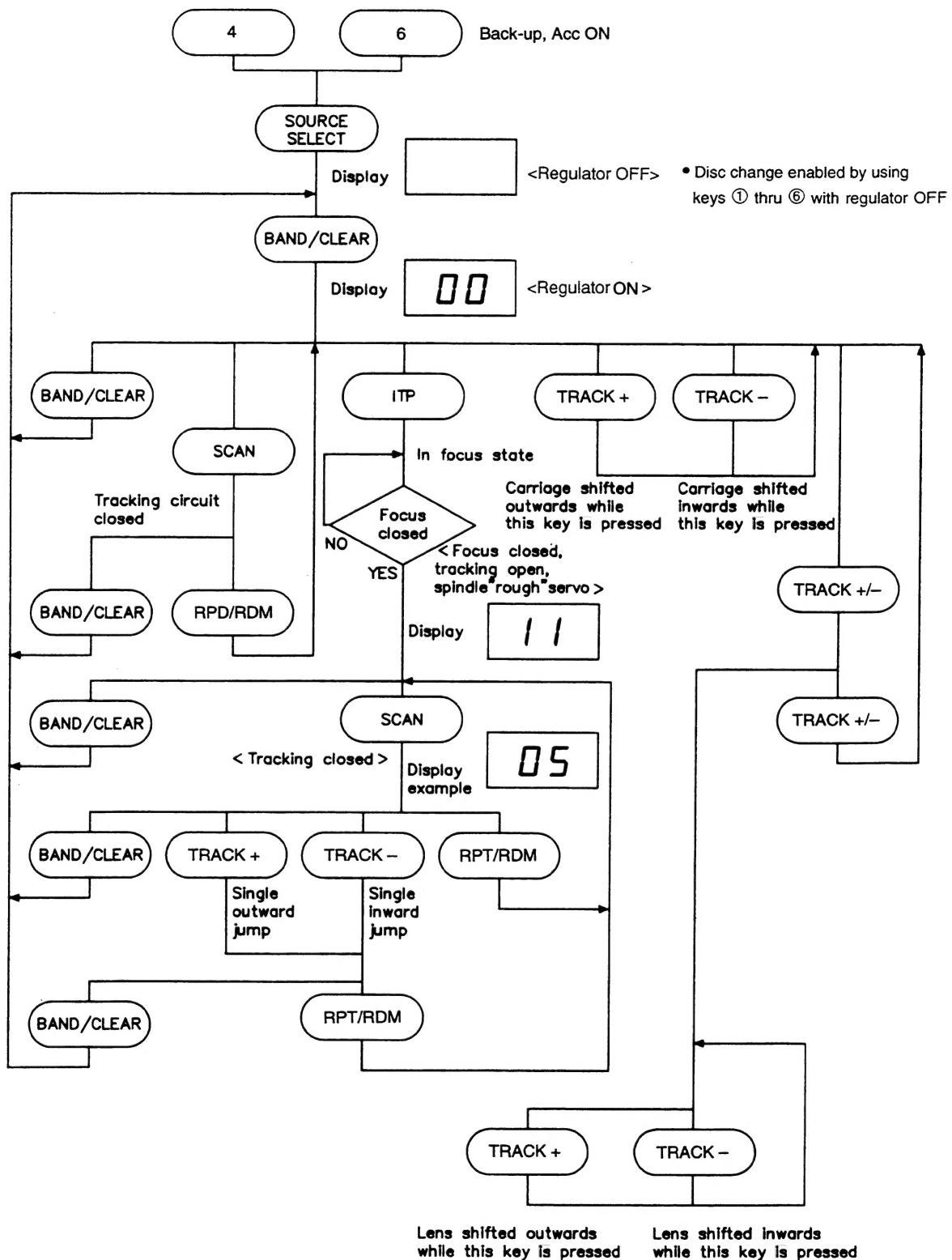
a) CD multi-player

key	Function
BAND/CLEAR	Regulator ON/OFF
TRACK +	FWD kick
TRACK -	REV kick
SCAN	Tracking close
RPT/RDM	Tracking open
ITP	Focus close
TRACK +/-	Carriage/tracking switching

b) Deck and tuner

No corresponding function. Normal operation executed.

- Flow Chart

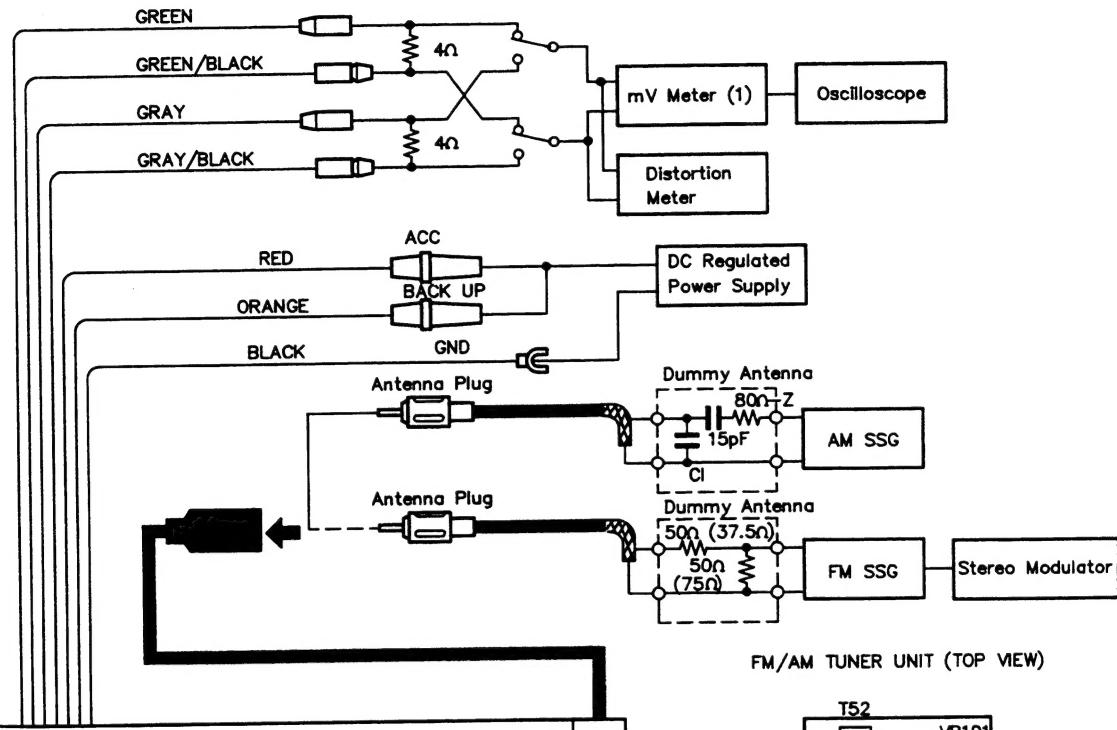


8. 2 TUNER ADJUSTMENT

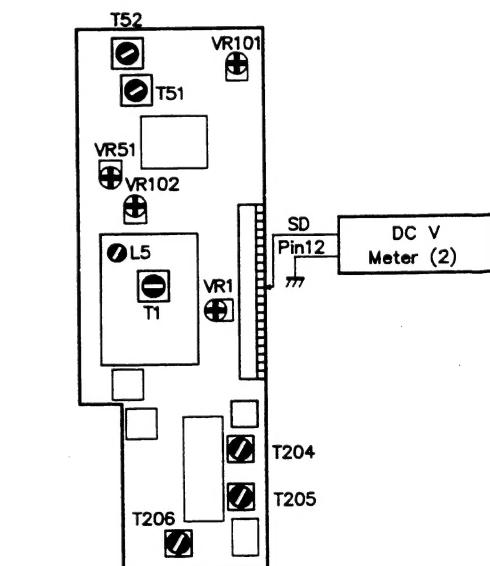
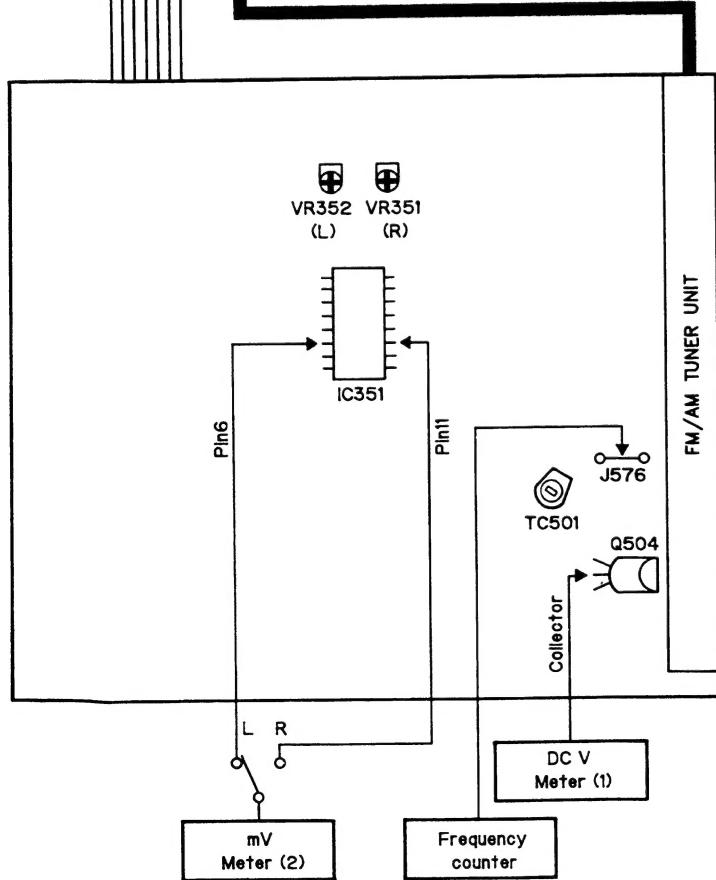
NOTICE:

Select C1 so that total capacity of 80pF is attained from the direction of the receiver jack.

Z: Output impedance of SSG.



FM/AM TUNER UNIT (TOP VIEW)



FM/AM TUNER UNIT (BOTTOM VIEW)

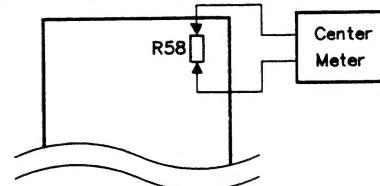


Fig. 5

FM ADJUSTMENT ※ Stereo MOD.: 1kHz, L+R=90% , Pilot=10%
 *(): EW, WG, ES, IT Model

	No.	FM SSG(400Hz, 100%)		Displayed Frequency (MHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (MHz)	Level (dB μ V)			
IF	1	98.1	60	98.1	T51	Center Meter:0
	2	98.1	60	98.1	T52	Distortion Meter:Minimum
	3	Repeat No. 1-2 alternately so that the center meter indicates the 0 output and distortion meter indicates minimum output.				
Front End	1			107.9 *(108)	L5	DC V Meter (1): 6.2 ± 0.2V
	2			87.9 *(87.5)		Verify that DCV Meter(1) is more than 2.1 ± 0.6V
	3	98.1	8	98.1	T1	Oscilloscope:Optimum Symmetry
	4	98.1※	60	98.1	T1	Distortion Meter:Minimum Rotate T1 less than ±90°
Soft Mute	1	98.1	60	98.1		mV Meter(1):A dB
	2	98.1	9	98.1	VR102	mV Meter(1):A-3dB
ARC	1	98.1※	34	98.1	VR101	mV Meter(1):Separation 5dB
SD	1	98.1	15	98.1	VR51	DC V Meter (2):Approx. 5V
	2	98.1	14	98.1		Verify that DC V Meter (2) is approx. 0V.
	3	98.1	55	98.1	VR1	DC V Meter (2):Approx. 5V
	Connect collector of Q2 to GND. Connect DC regulated power supply to pin 3 of FM front end through resistor (330Ω). Add 4.3v from DC regulated power supply.					
	4	98.1	54	98.1		Verify that DC V Meter (2) is approx. 0V.

AM ADJUSTMENT (UC, ES model)

* ():ES model when tuning step at 9kHz.

	No.	AM SSG(400Hz, 30%)		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (kHz)	Level (dB μ V)			
Tun-ing Volt	1			1,710 *(1,602)	—	Verify that DC V Meter (1) is less than 6.5V.
	2			530 *(531)	—	Verify that DC V Meter (1) is more than 2.0V.
IF	1	1,000 (999)	15	1,000 (999)	T204, 205, 206	mV Meter (1):Maximum

MW/LW ADJUSTMENT (EW, WG, IT model)

	No.	AM SSG(400Hz, 30%)		Displayed Frequency (kHz)	Adjusting Point	Adjustment Method (Switch Position)
		Frequency (kHz)	Level (dB μ V)			
Tun-ing Volt	1	(MW MODE)		1,602	—	Verify that DC V Meter (1) is less than 6.5V.
	2	(LW MODE)		153	—	Verify that DC V Meter (1) is more than 2.0V.
IF	1	999	20-25	999	T204, 205, 206	mV Meter (1):Maximum

DOLBY NR ADJUSTMENT (EW, WG, IT model)

No.	Cassette Tape	Adjusting Point	Adjustment Method (Switch Position)
1	NCT-150 (400Hz, 200nwb/m)	VR352 (Lch) VR351 (Rch)	mV Meter (2): -6dBs \pm 1dB (DOLBY NR Switch:OFF)

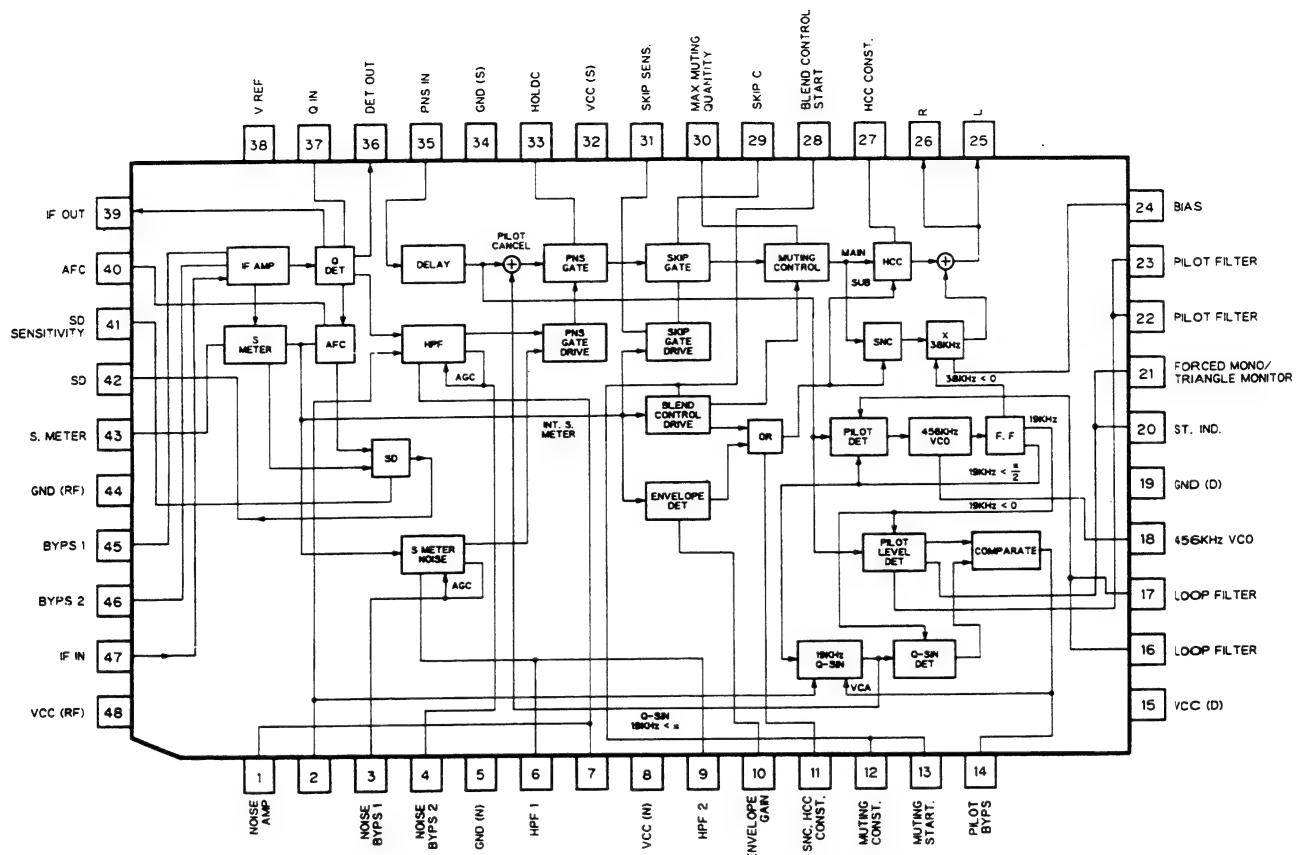
CLOCK ADJUSTMENT (UC, ES model)

No.	Adjusting Point	Adjustment Method
1	AM Tuner Mode	Display: UC model 1,710kHz Display: ES model 1,602kHz
2	TC501	Frequency Counter: UC model 12,420kHz \pm 50Hz Frequency Counter: ES model 12,312kHz \pm 50Hz

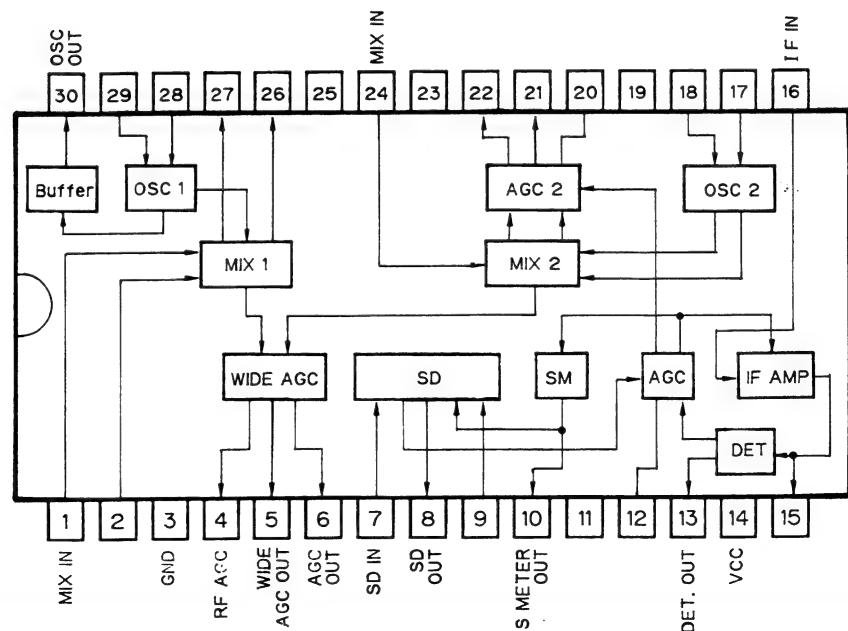
ES model when tuning step at 9kHz.

•ICs

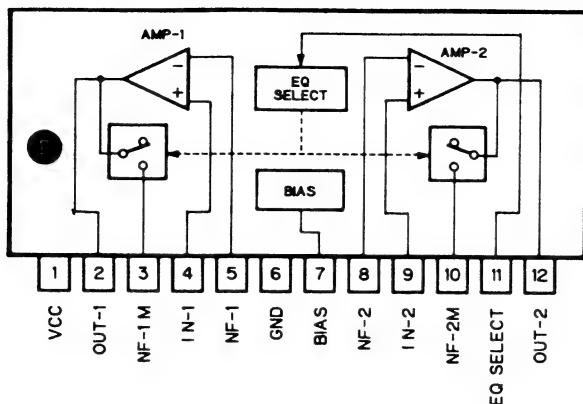
PA4012B



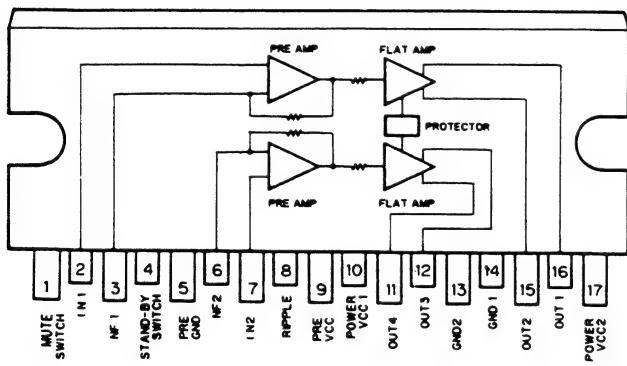
PA4017



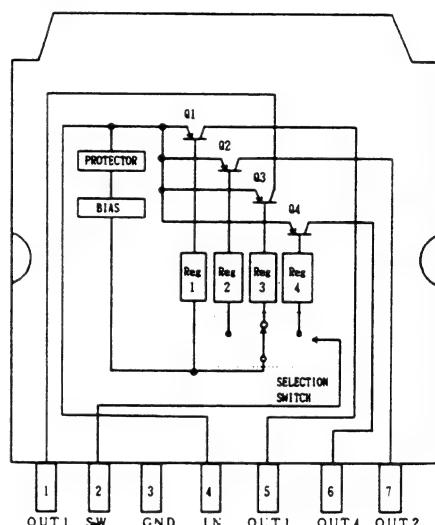
TA8162SN



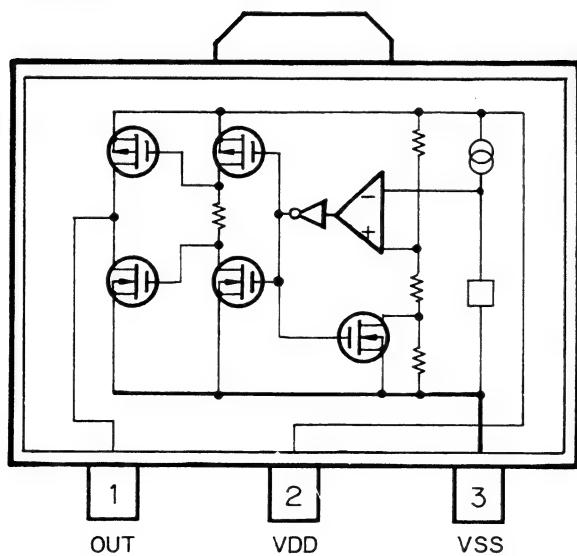
TA8215H-A



TA8214K

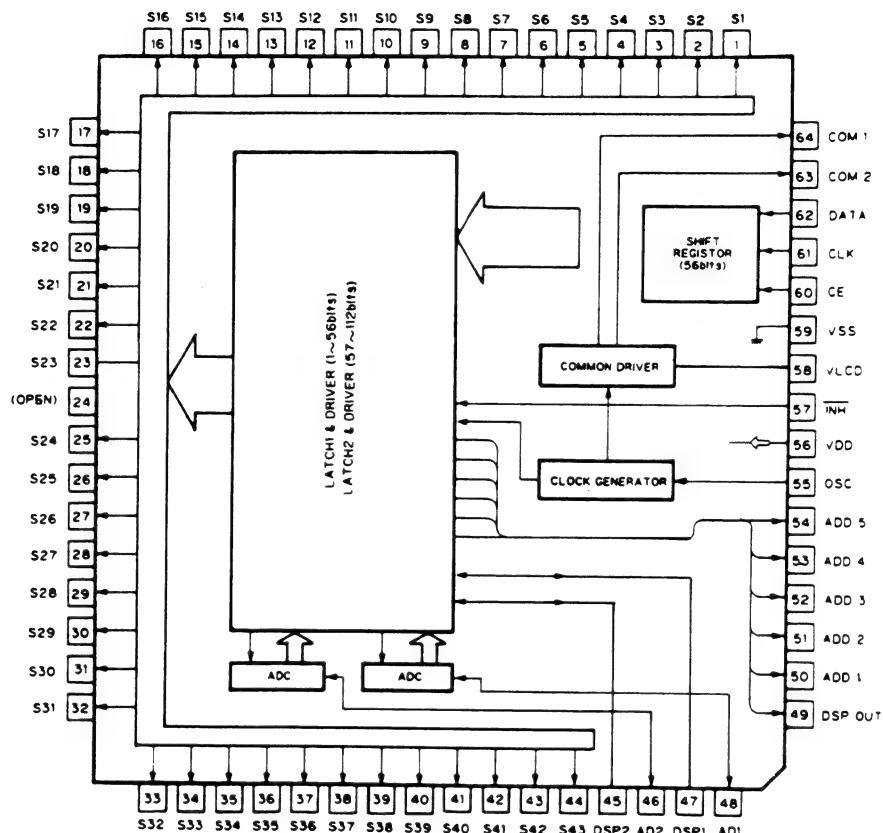


S-80740AH

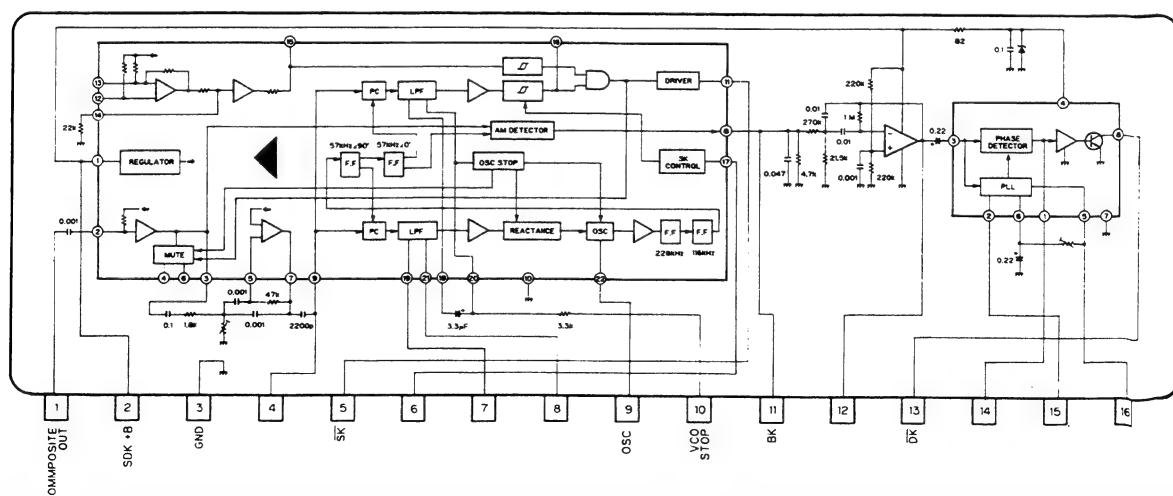


IC's marked by * are MOS type.
Be careful in handling them because they are very
liable to be damaged by electrostatic induction.

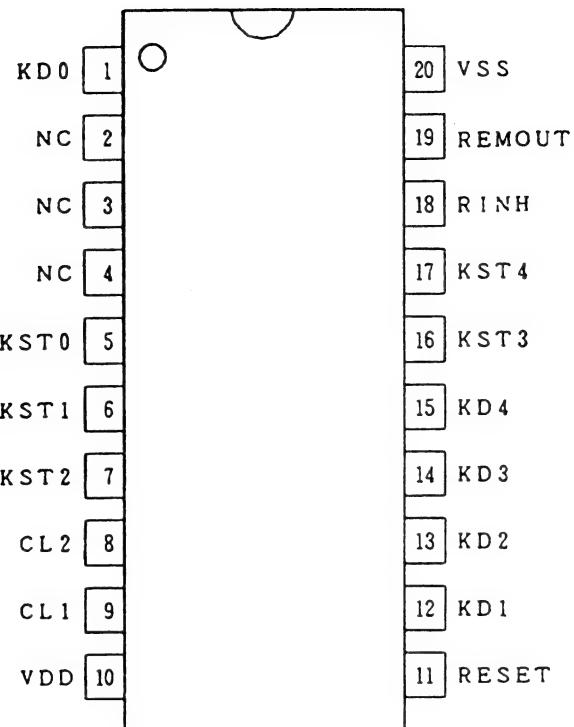
* LC7582A



KHAC02



PD4285

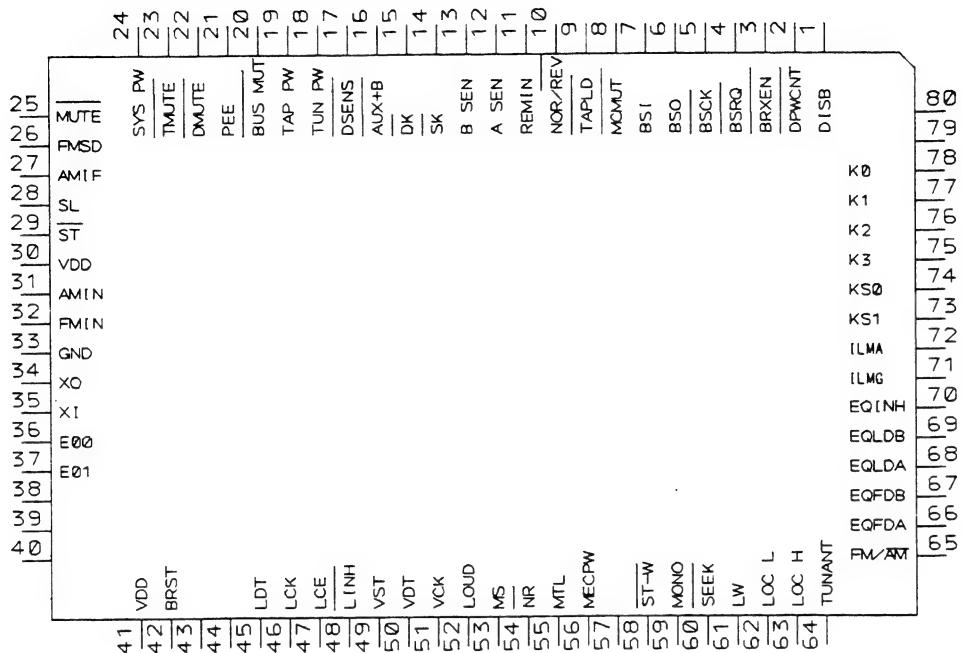


- Pin Functions (PD4285)

Pin No.	Pin Name	I/O	Output Format	Function and Operation
1	KDD	INPUT		Key return input
2-4	NC			
5-7	KST0-KST2	OUTPUT	NM	Key strobe output
8	CL2			System clock generator connector pin
9	CL1			System clock generator connector pin
10	VDD			
11	RESET	INPUT		Reset input
12-15	KD1-KD4	INPUT		Key return input
16,17	KST3,KST4	OUTPUT	NM	Key strobe output
18	RINH	OUTPUT	NM	Remote controller OFF output when key data is outputed
19	REMOUT	OUTPUT	NM	Remote controller data output
20	VSS			GND

Output Format	Meaning
NM	Neutral resistivity N channel open drain

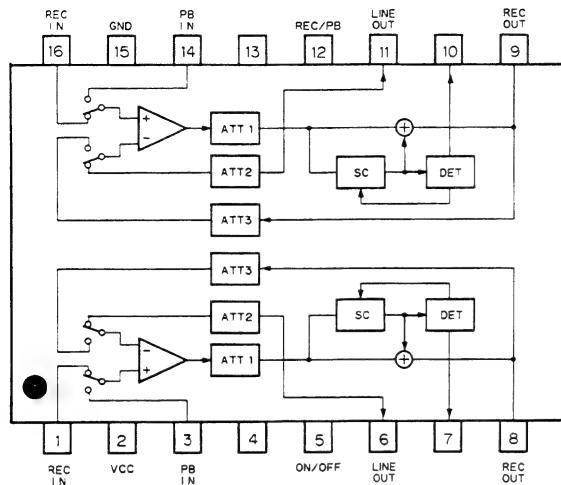
* PD4302
PD4343A



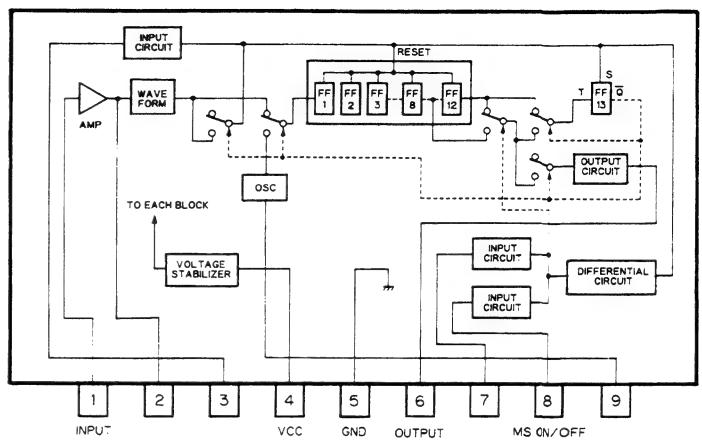
•Pin Functions (PD4302, PD4343A)

Pin No.	Pin Name	I/O	I/O Format	Function and Operation
1	DISB	Output	C	AUX control output
2	DPWCNT	Output	C	Front panel EJECT/REPLACE control signal output
3	BRXEN	Input/Output		Bus reception enable line
4	BSRQ	Input/Output		Data communications serial poll request
5	BSCK	Input/Output		Bus serial clock input/output
6	BSO	Output		Bus serial data output
7	BSI	Input		Bus serial data input
8	MCMUT	Input		Mechanism mute request
9	TAPLD	Input		Cassette loading input
10	NOR/REV	Input		Deck FWD/REV sensor input
11	REMIN			Key input
12	ASENS			ACC sense input
13	BSENS			Back up sense input
14	SK	Input		SK signal input
15	DK	Input		DK signal input
16	AUX+B	Input		AUX input
17	DSENS	Input		Front panel EJECT/REPLACE sensor input
18	TUNPW	Output	N	Tuner power supply control
19	TAPPW	Output	N	Deck power supply control
20	BUSMUT	Output	N	Bus mute output
21	PEE	Output	C	Beep tone output
22	DMUTE	Output	C	Deck mute output
23	TMUTE	Output	C	Tuner mute output

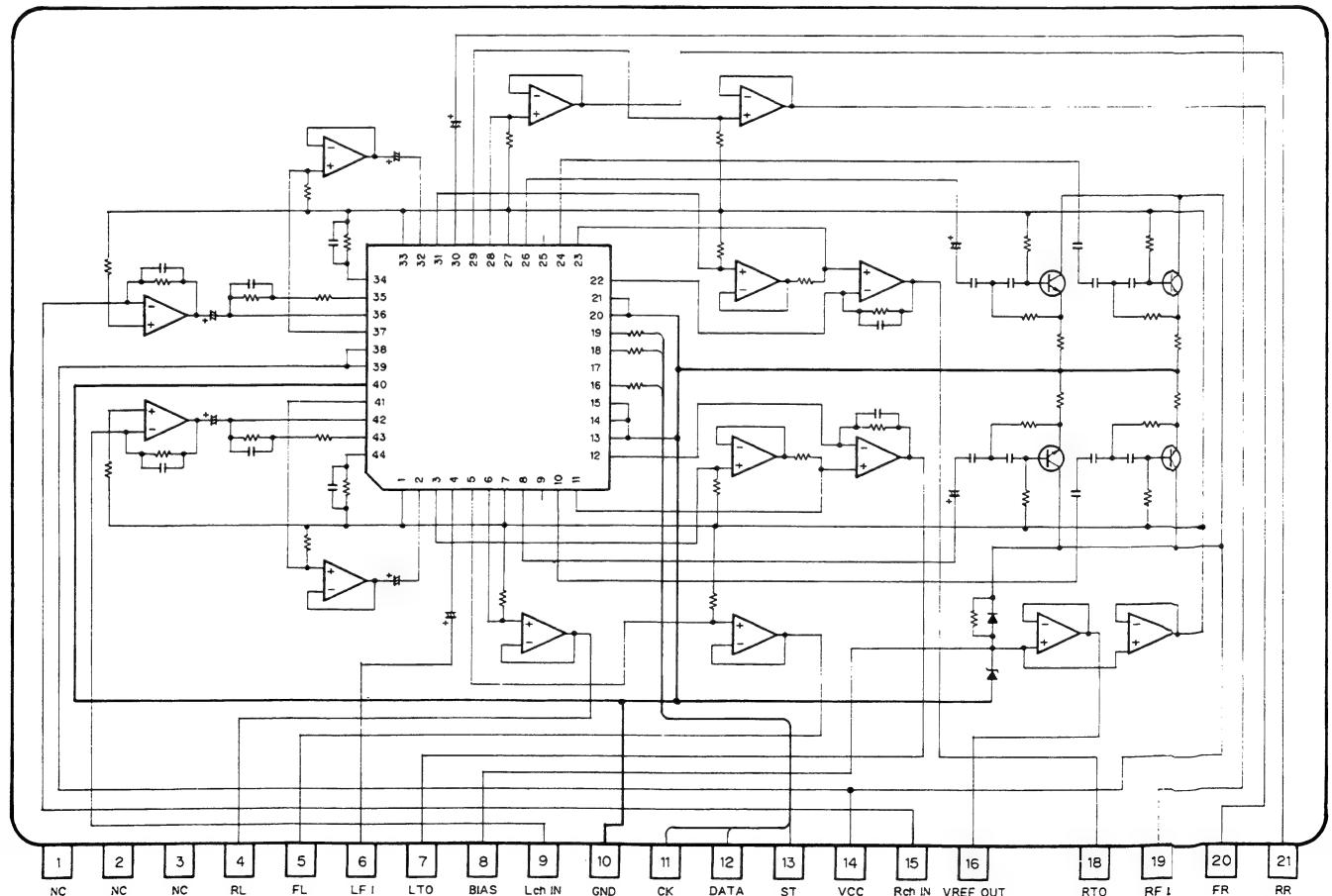
CXA1102P



AN6263N



KHA272

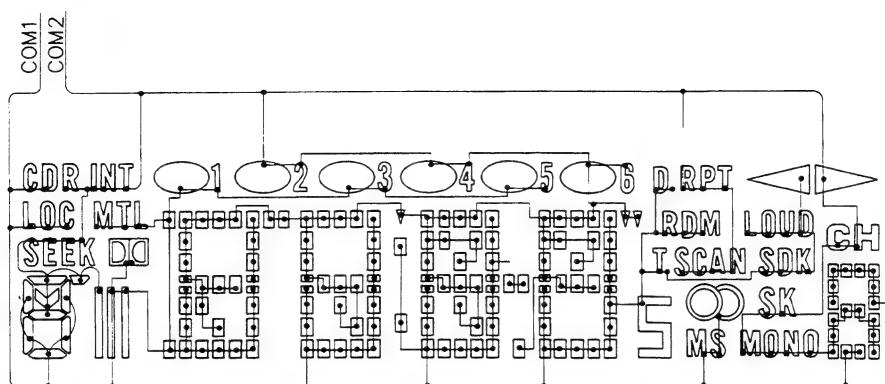


Pin No.	Pin Name	I/O	I/O Format	Function and Operation
24	SYSPW	Output	C	System power supply control
25	MUTE	Output	C	Mute
26	FMSD	Input		FM IF input
27	AMIF	Input		AM IF input
28	SL	Input		Signal level input
29	ST	Input		Stereo signal input
30	VDD			
31	AMIN	Input		AM VCO input
32	FMIN	Input		FM VCO input
33	GND			
34, 35	Xout, in			
36, 37	E00, 1			
38-40				Not used
41	VDD			
42	BRST	Output	C	Bus reset
43, 44				Not used
45	LDT	Output	C	LCD driver data output
46	LCK	Output	C	LCD driver clock
47	LCE	Output	C	LCD driver CE
48	LINH	Output	C	LCD driver INH
49	VST	Output	C	E-VOL strobe
50	VDT	Output	C	E-VOL data
51	VCK	Output	C	E-VOL clock
52	LOUD	Output	C	Loudness
53	MS	Output	C	Music signal input
54	NR	Output	C	Dolby NR ON/OFF output
55	MTL	Output	C	Deck METAL ($70 \mu S$) output
56	MECPW	Output	C	Deck power supply control
57				Not used
58	ST-W	Output	C	Stereo wide
59	MONO	Output	C	Mono output
60	SEEK	Output	C	"L" output when SEEK
61	LW	Output	C	LW output
62	LOCL	Output	C	Local L
63	LOCH	Output	C	Local H
64	TUNANT	Output	C	Antenna output
65	FM/AM	Output	C	FM/AM switching
66	EQFDA	Output	C	1P, EQ Fc control
67	EQFDB	Output	C	1P, EQ Fc control
68	EQLDA	Output	C	1P, EQ level control
69	EQldb	Output	C	1P, EQ level control
70	EQINH	Output	C	1P, EQ INH
71	ILLMG	Output	C	Green illumination light output
72	ILLMA	Output	C	Amber illumination light output
73	KS1	Output	C	Model sense output
74	KS0	Output	C	Model sense output
75-78	K3-K0	Input		Key matrix input
79, 80				Not used

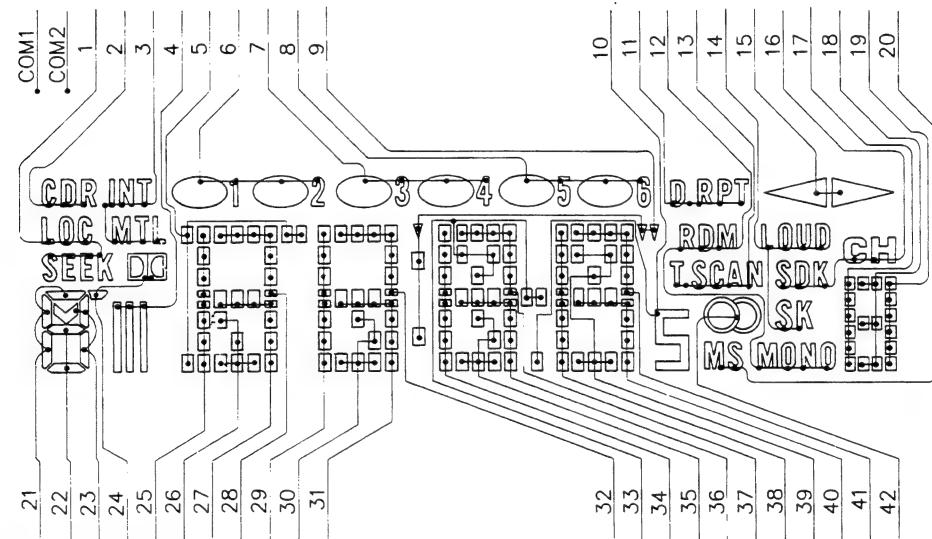
Output Format	Meaning
C	CMOS Output
N	N channel open drain

•LCD (CAW1124)

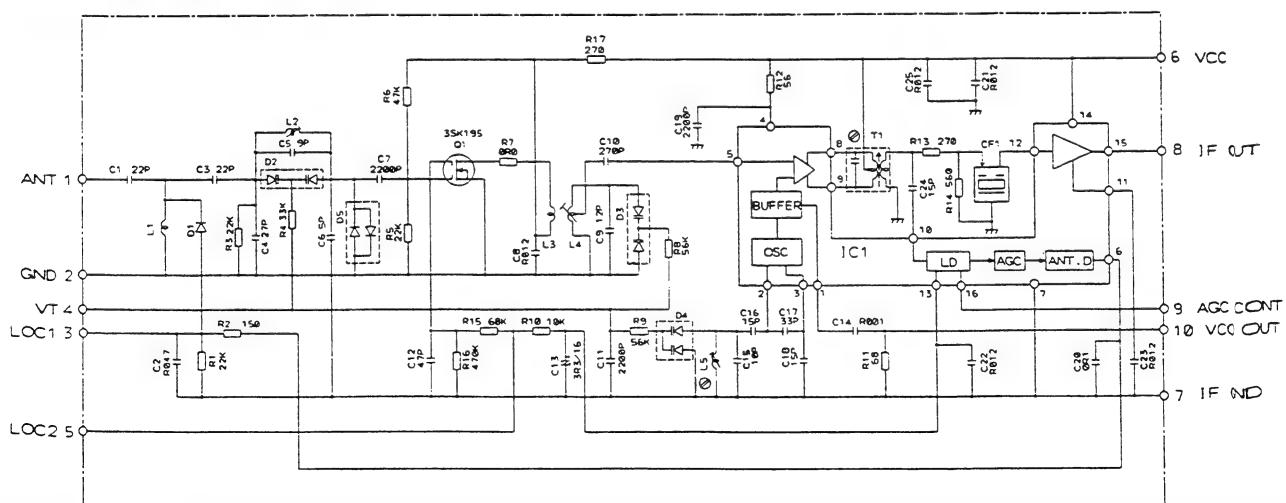
COMMON



SEGMENT



•FM FRONT END (CWB1035)



NOTE :

— Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

— Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as
2.2—R22
0.022—RC22

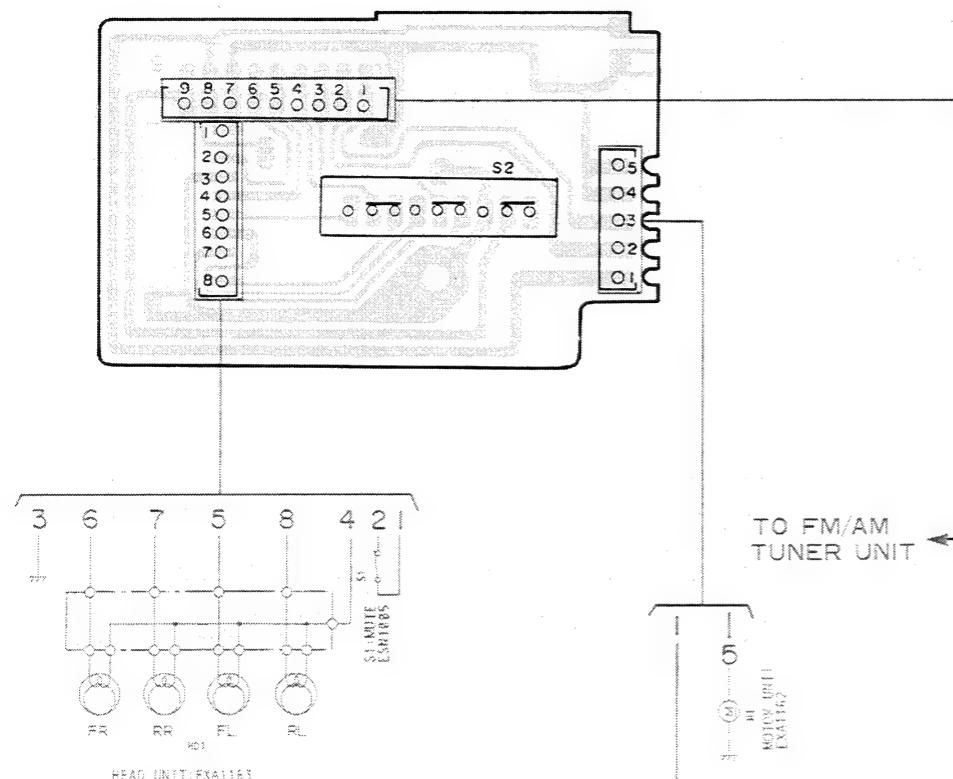
9. CONNECTION DIAGRAM (KEH-M6300/EW, IT, M6300SDK/WG)

TUNER AMP P.C. BOARD

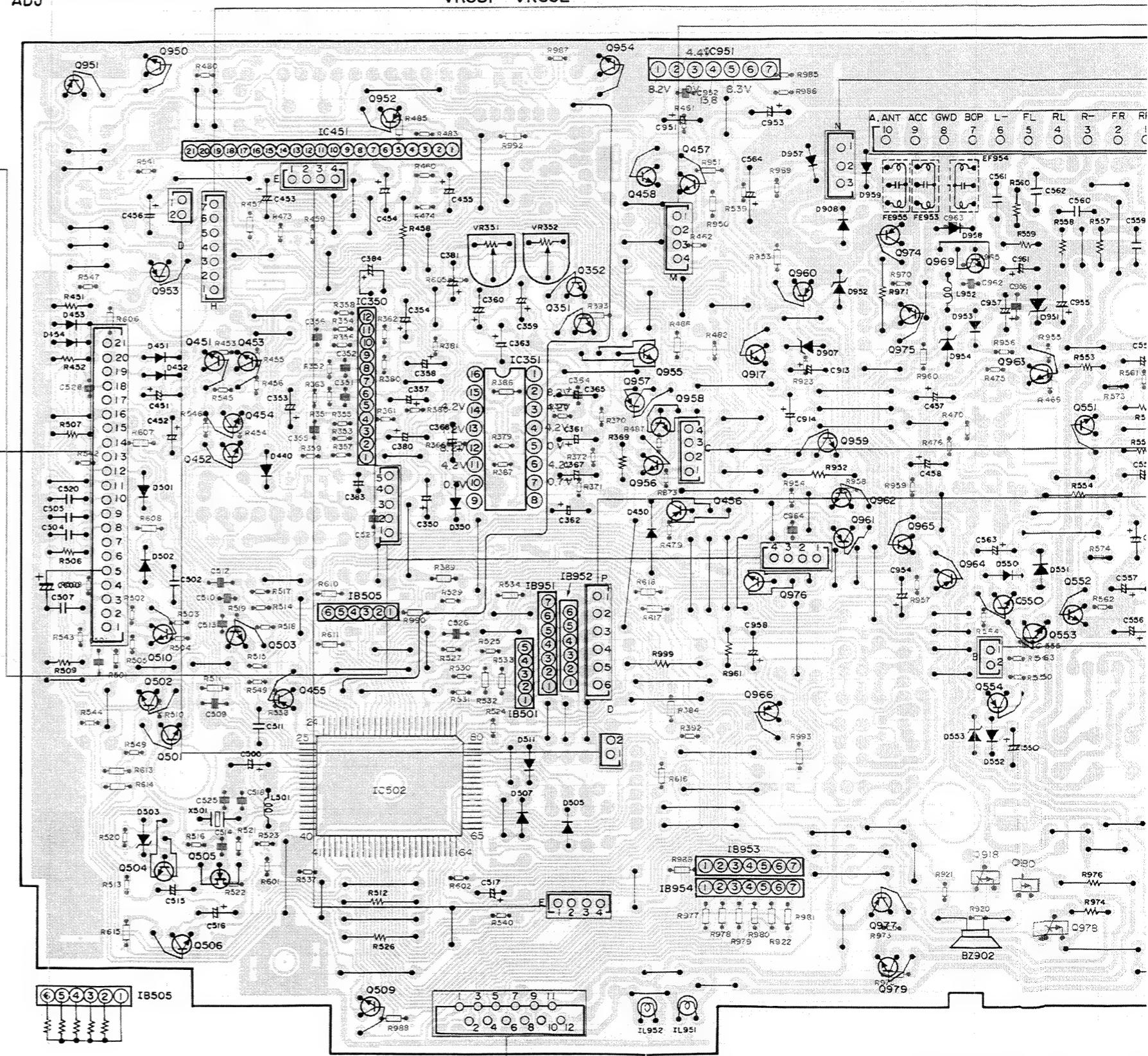
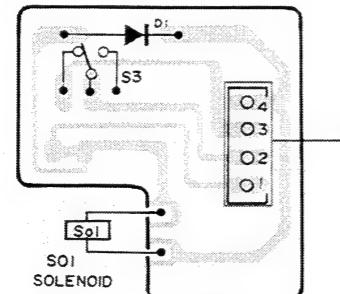
Q951 Q950 Q453 Q454 Q350 Q952 IC451 Q954 Q352 Q351 Q458 Q457 Q960 Q974 Q975 Q969 Q963 Q
 Q953 Q452 IC350 IC351 Q456 Q976 Q959 Q962 Q961 Q965 Q964 Q550 Q552 Q
 IC,Q Q510 Q502 Q501 Q504 Q505 Q506 Q503 Q455 IC502 Q509 Q958 Q957 Q956 Q955 IC951 Q966 Q977 Q979 Q918
 ADJ VR351 VR352

A

P.C. BOARD(A)

TO FM/AM
TUNER UNIT

P.C. BOARD(B)



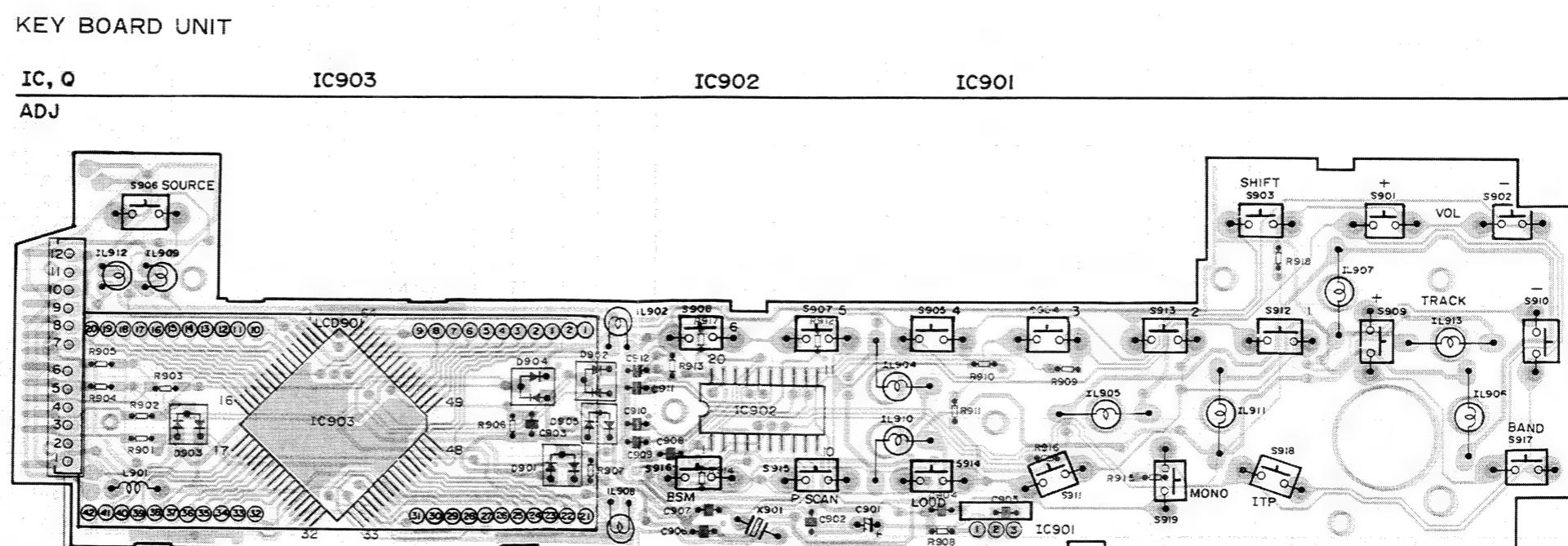
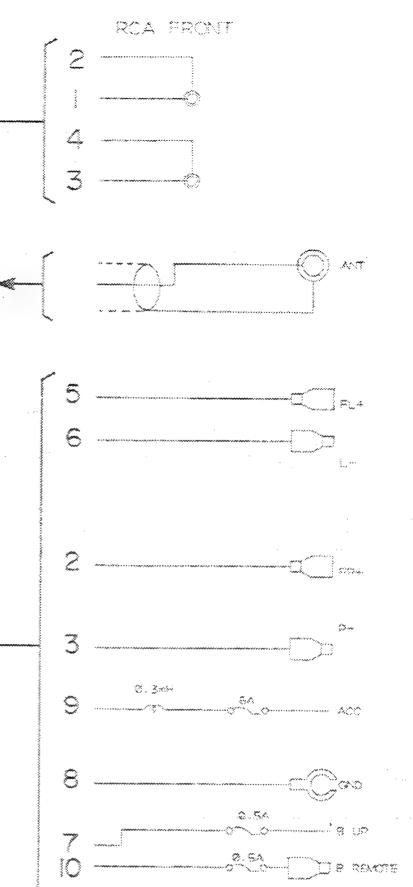
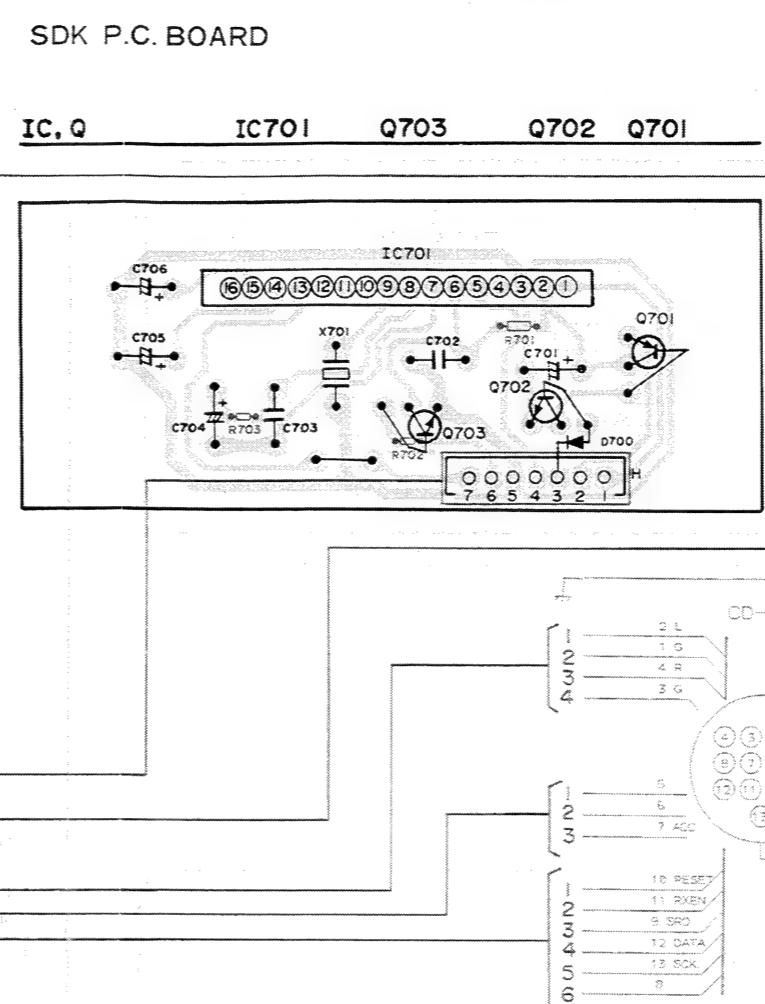
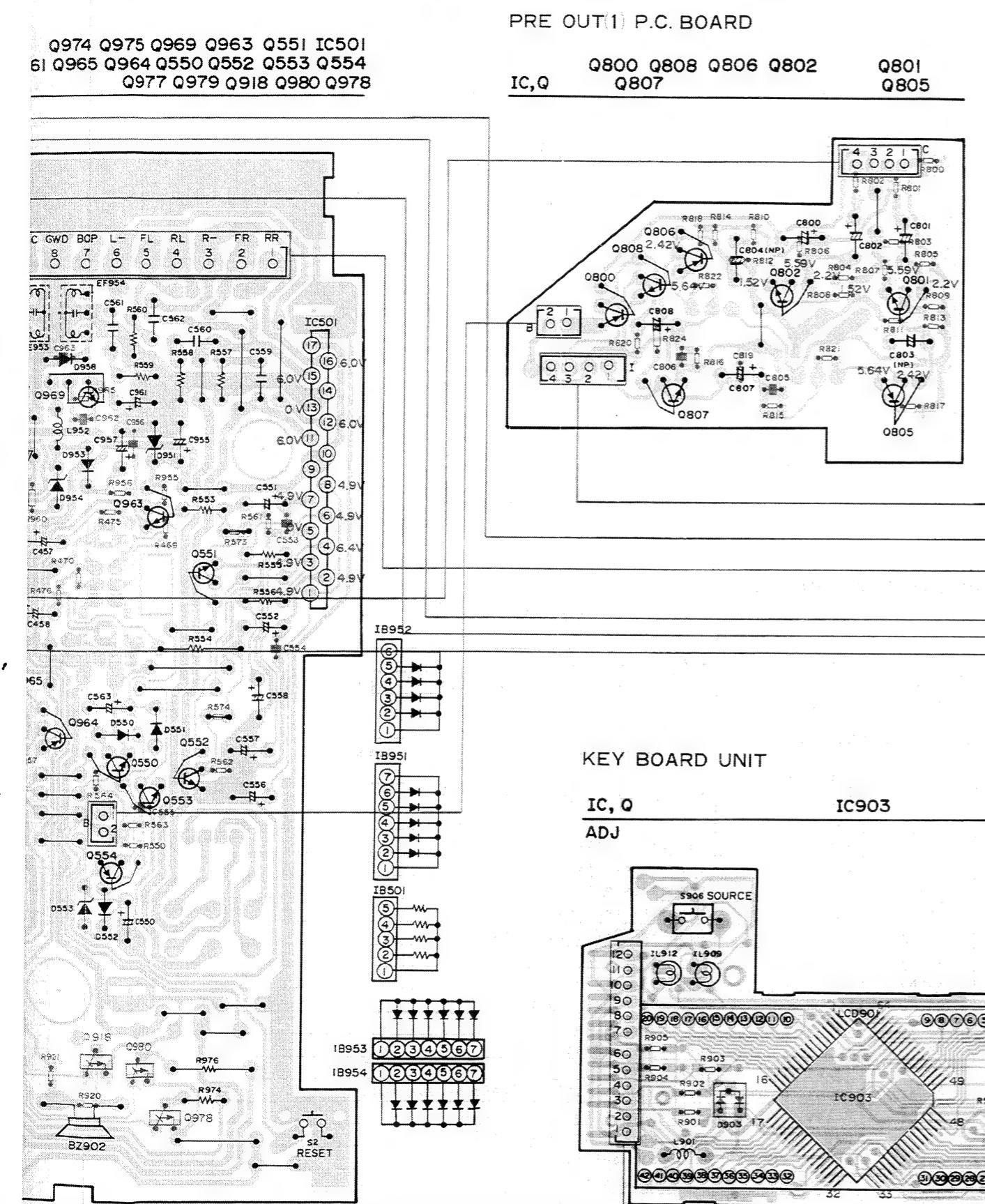
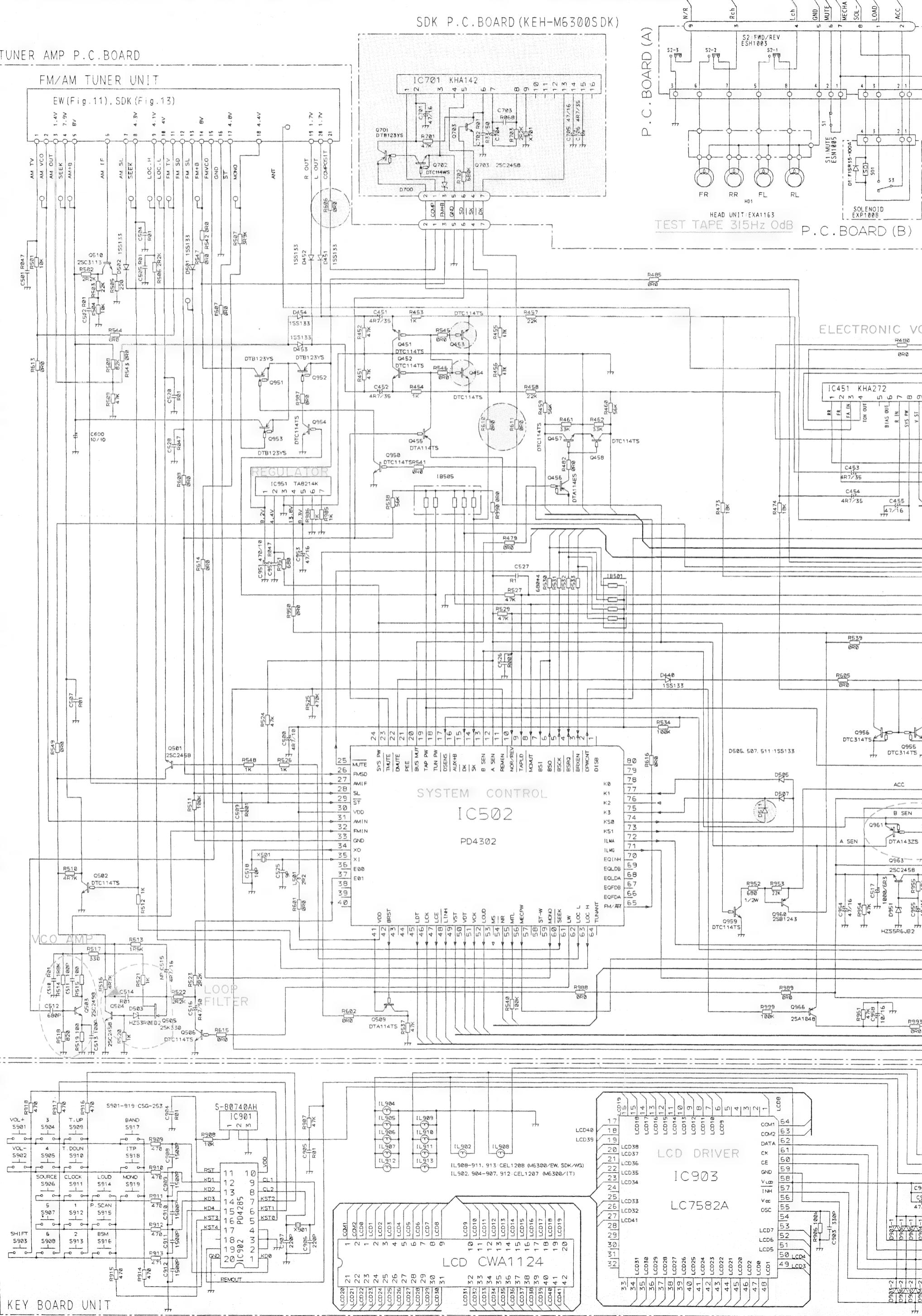
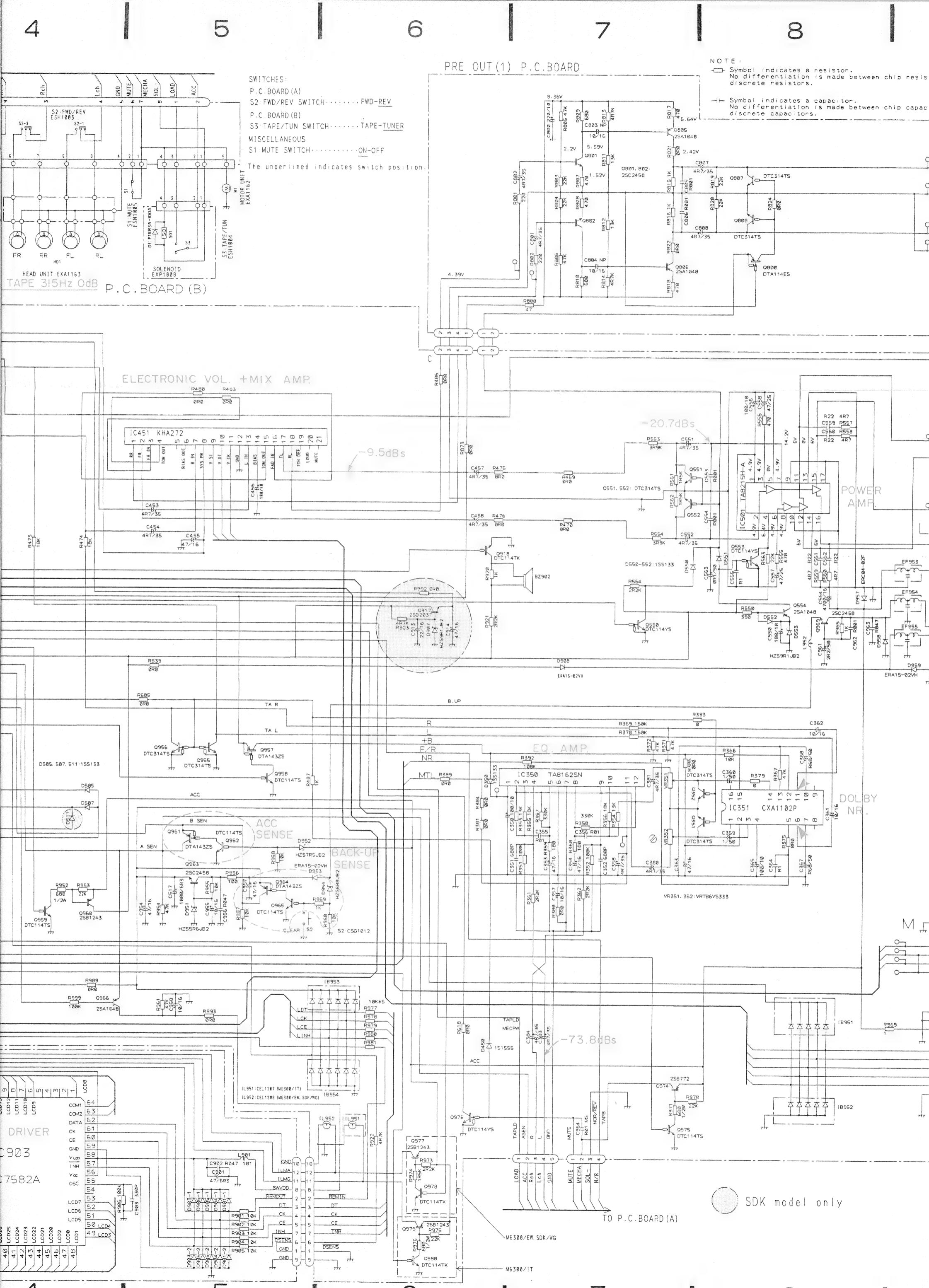


Fig. 6

10. SCHEMATIC CIRCUIT DIAGRAM (KEH-M6300/EW, IT, M6300SDK/WG)

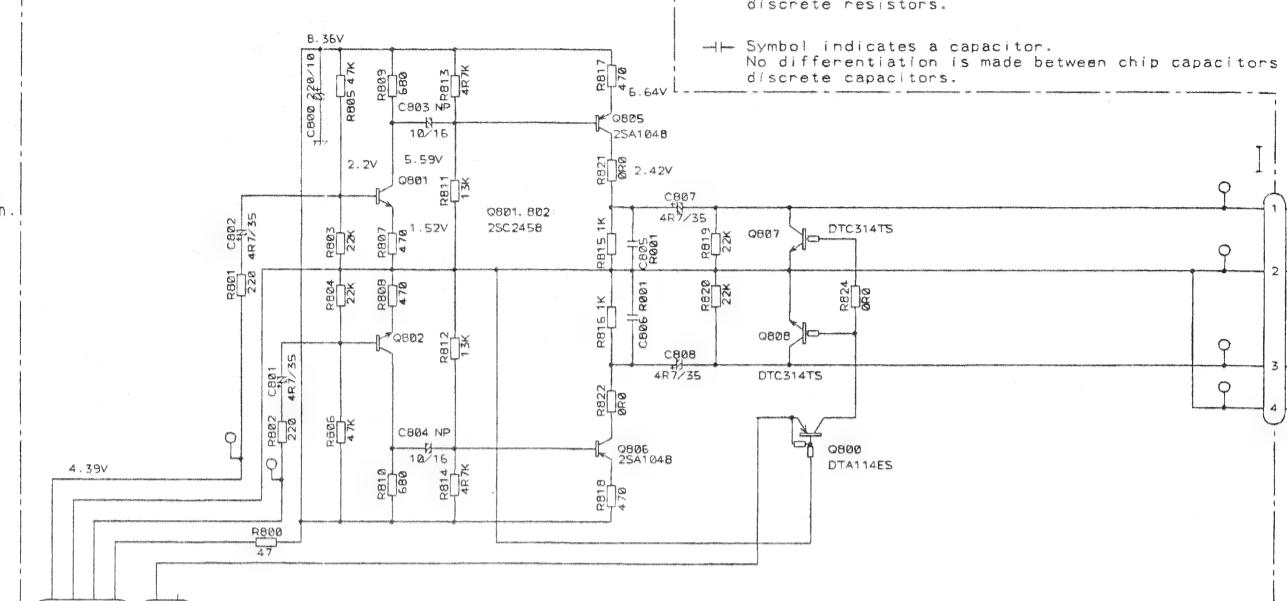
TO TUNER AMP P.C. BOARD





SWITCHES:
 P.C. BOARD (A)
S2 FWD/REV SWITCH FWD-REV
 P.C. BOARD (B)
S3 TAPE/TUN SWITCH TAPE-TUNER
 MISCELLANEOUS
S1 MUTE SWITCH ON-OFF
 The underlined indicates switch position.

PRE OUT(1) P.C.BOARD



NOTE:
 ┌─┐ Symbol indicates a resistor.
 └─┘ No differentiation is made between chip resistors and discrete resistors.

─+─ Symbol indicates a capacitor.
 └─┘ No differentiation is made between chip capacitors and discrete capacitors.

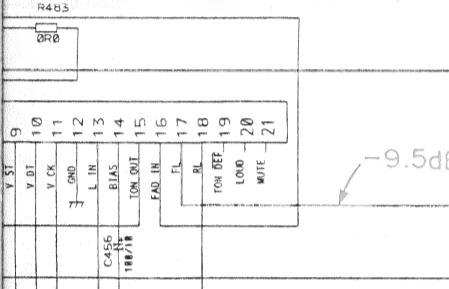
Decimal points for resistor and capacitor fixed values are expressed as:
 2.2=2R2
 0.022=R022

A

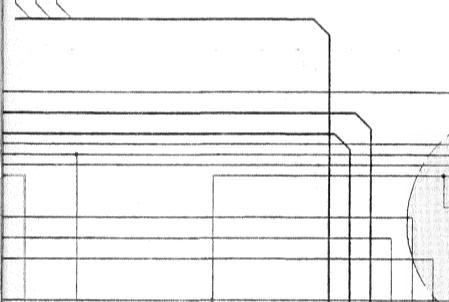
RCA REAR

TUNER AMP UNIT
 Consists of
 TUNER AMP P.C.BOARD
 PRE OUT(1) P.C.BOARD
 SDK P.C. BOARD (M6300SDK)

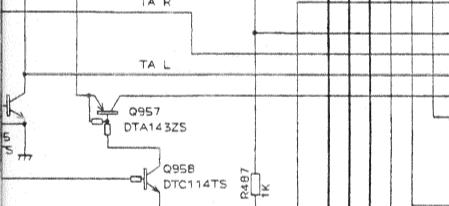
VOL. + MIX AMP.



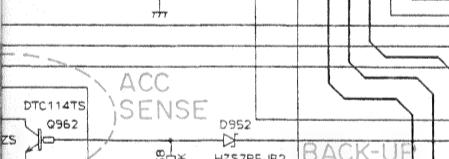
-9.5dBs



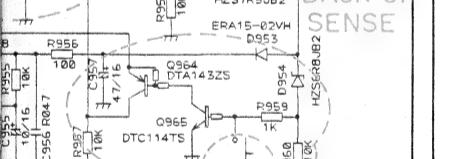
B UP



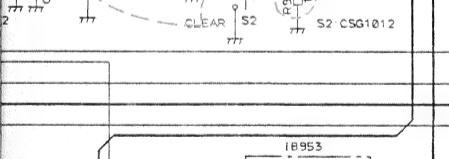
B UP



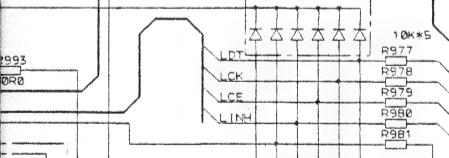
B UP



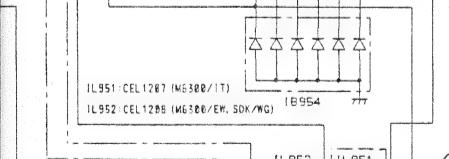
B UP



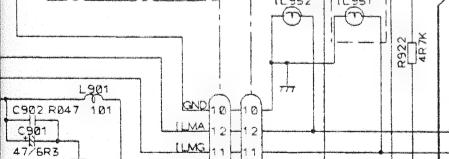
B UP



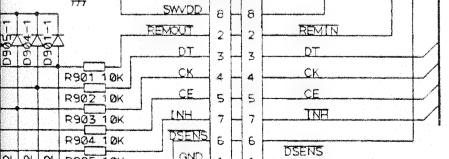
B UP



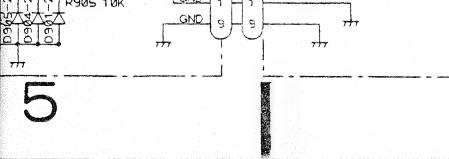
B UP



B UP

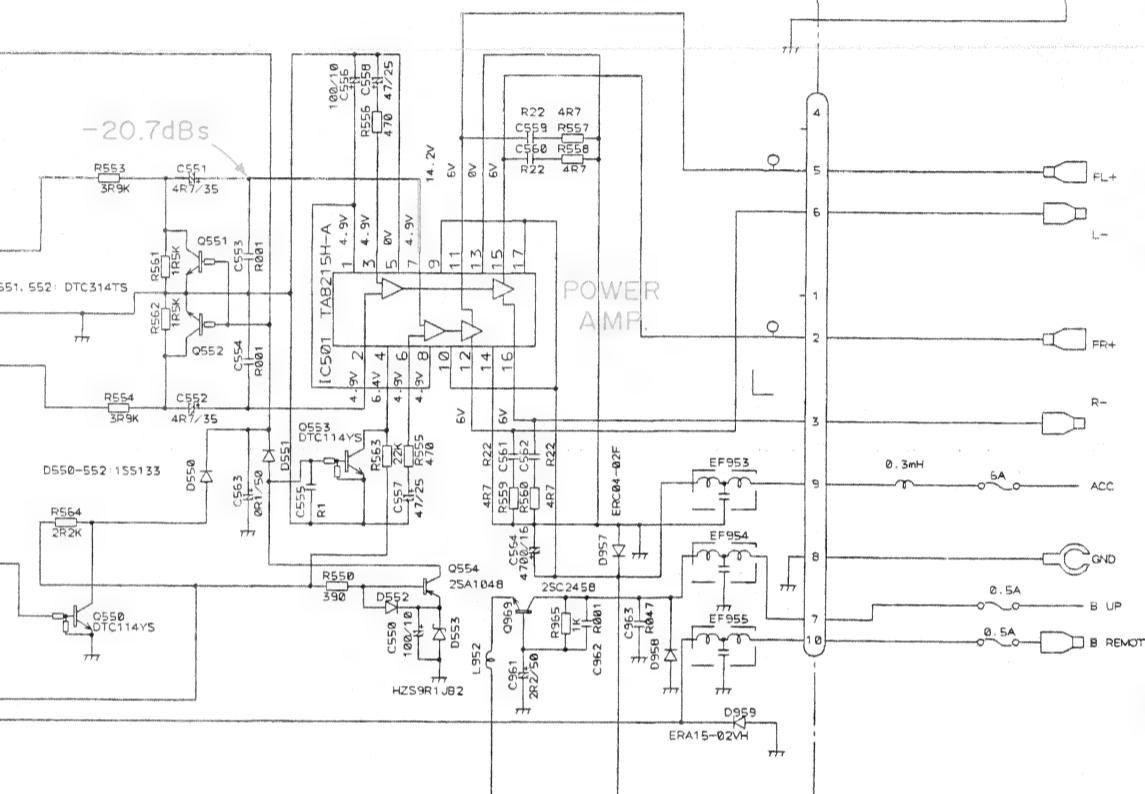


B UP

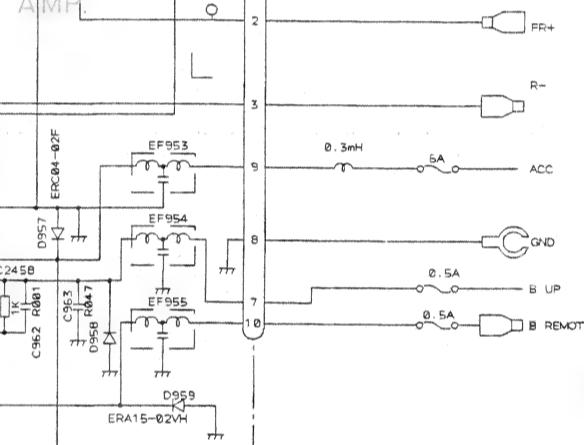


B UP

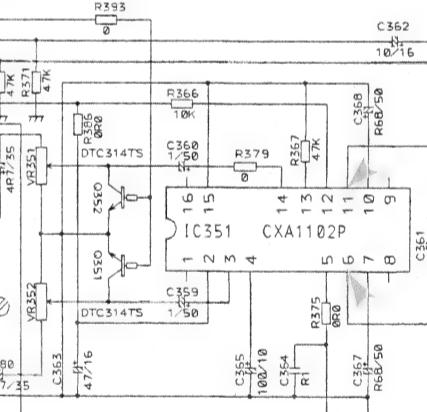
EQ. AMP.



POWER AMP.

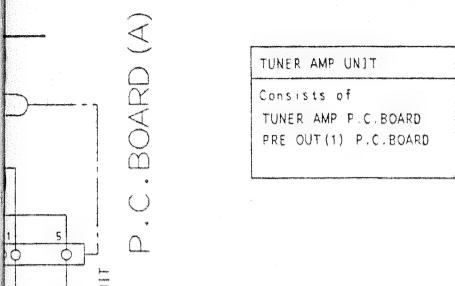


DOLBY NR.



TO P.C.BOARD (A)

SDK model only



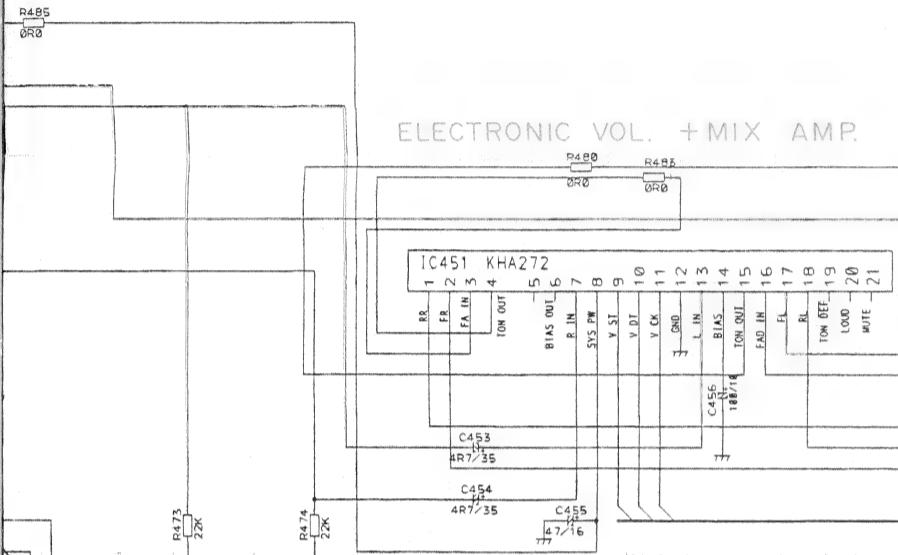
SWITCHES:
P.C.B. (A)
S2: FWD/REV SWITCH.....FWD-REV
P.C.B. (B)
S3: TAPE/TUN SWITCH.....TAPE-TUNER
MISCELLANEOUS
S1: MUTE SWITCH.....ON-OFF

The underlined indicates switch position.

NOTE:
Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→R2
0.022→R022



(A) V SWITCH.....FWD-REV

(B) UN SWITCH.....TAPE-TUNER

EUS

SWITCH.....ON-OFF

Dashed indicates switch position.

chip resistors and

chip capacitors and

L. + MIX AMP.

TA R

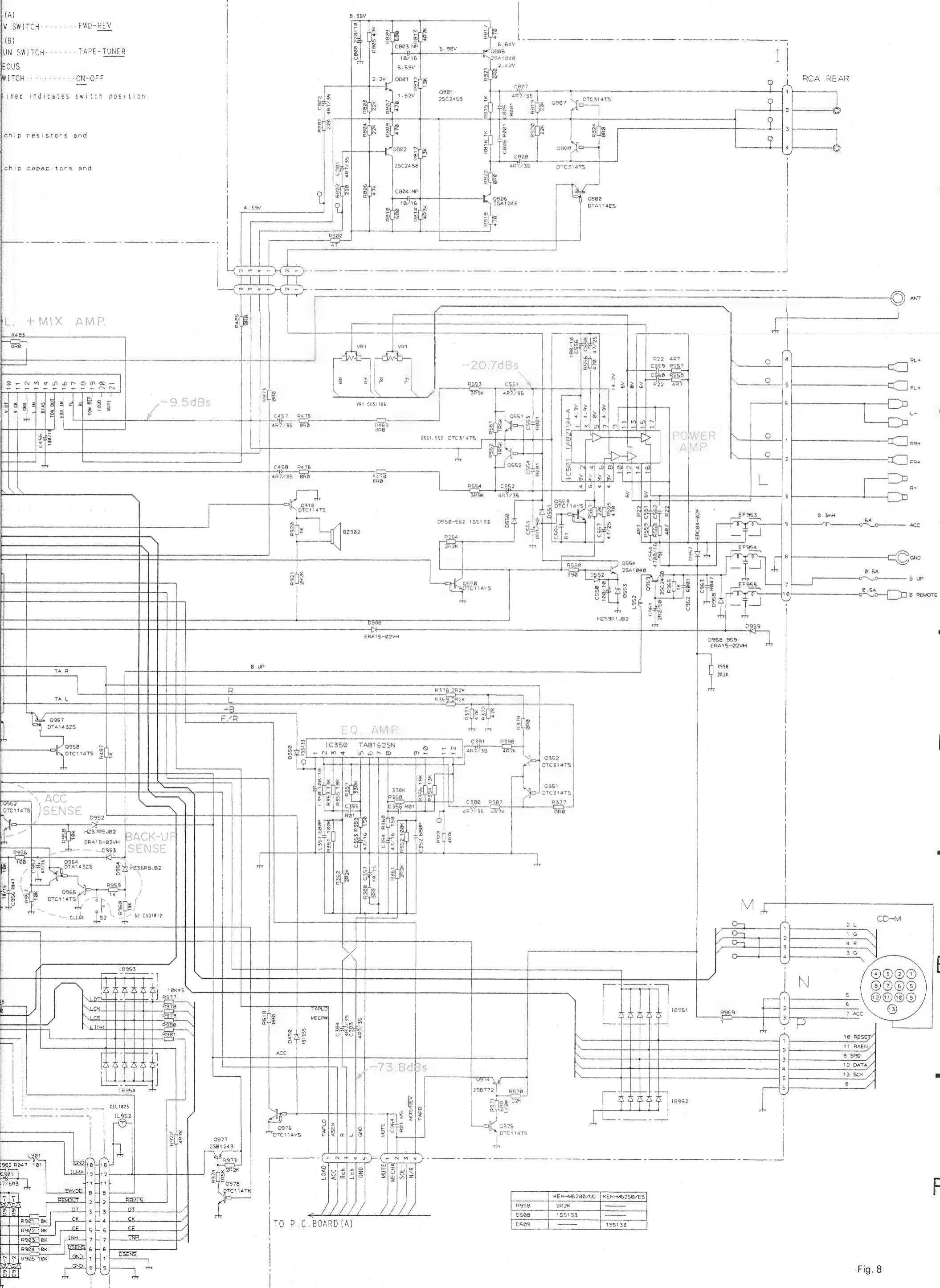
TA L

ACC SENSE

BACK-UP SENSE

CD-M

PRE OUT(1) P.C. BOARD



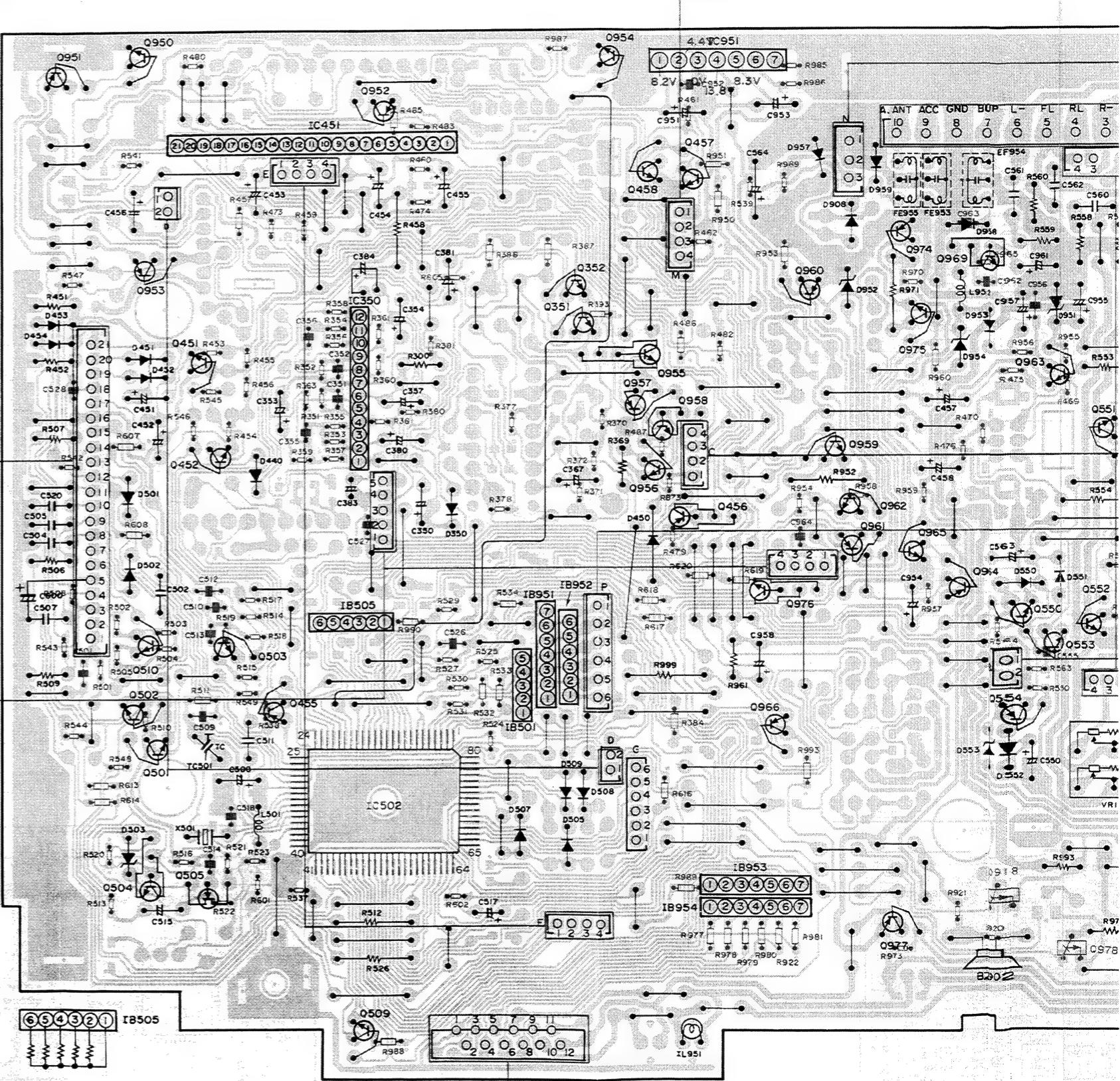
1 2 3 4 5 6

12. CONNECTION DIAGRAM (KEH-M6200/UC, M6250/ES)

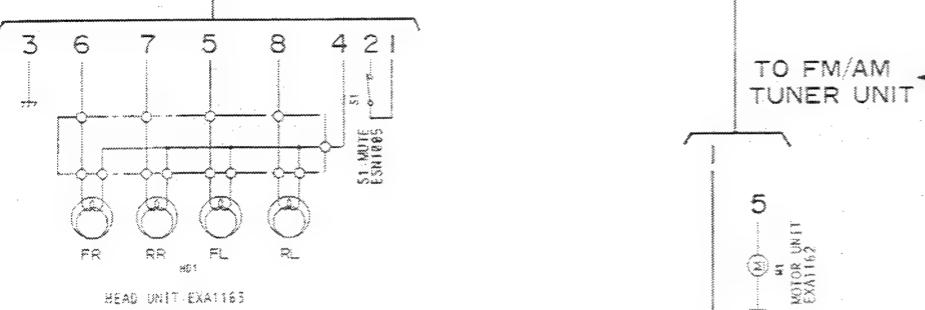
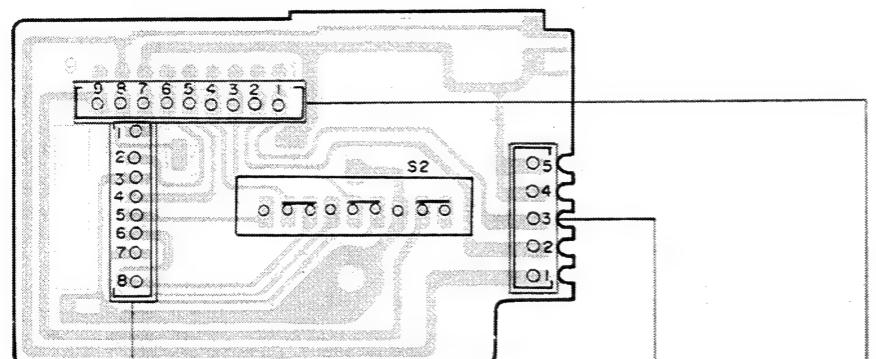
TUNER AMP P.C. BOARD

Q951 Q950	Q350	Q952 IC451	Q954 Q352 Q351 Q458 Q457	Q960	Q974 Q975 Q969 Q5
IC,Q 0510 Q502 Q501 Q504 Q505	Q953 Q452 IC352	IC350	Q456 Q976	Q959 Q962 Q961 Q965 Q964 Q550 Q!	
	Q503 Q455 IC502 Q509	Q503 Q455 IC502 Q509	Q958 Q957 Q956 Q955 IC951	Q966	Q977

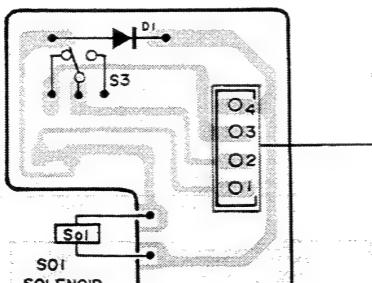
ADJ TC501



P.C. BOARD(A)



P.C. BOARD(B)



A

B

C

D

1

2

3

4

5

6

13. CIRCUIT DIAGRAM AND P. C. BOARD PATTERN

13.1 FM/AM TUNER UNIT (KEH-M6300/EW, IT)

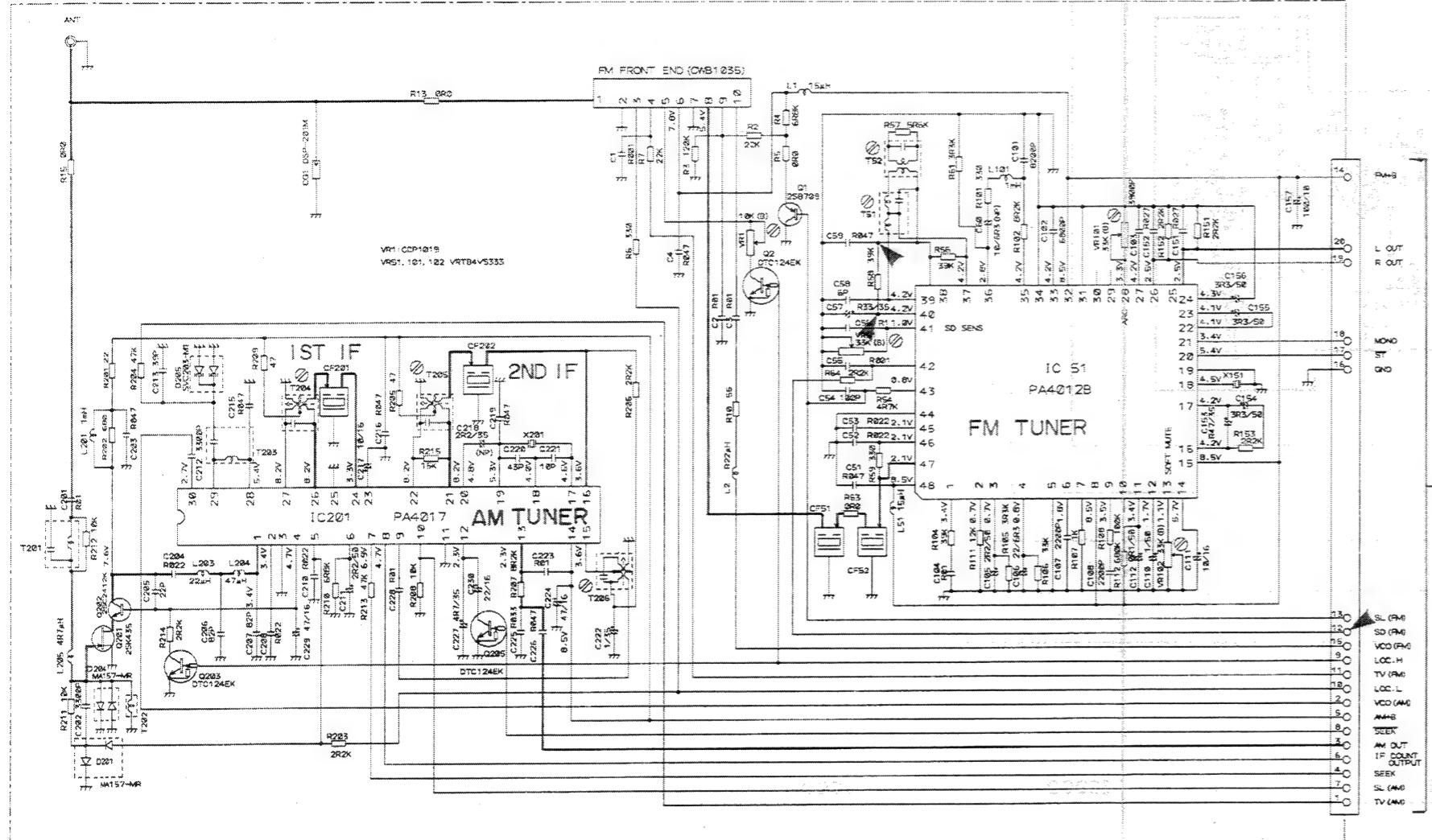


Fig. 10

NOTE:  Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2→R22
0.022→R022

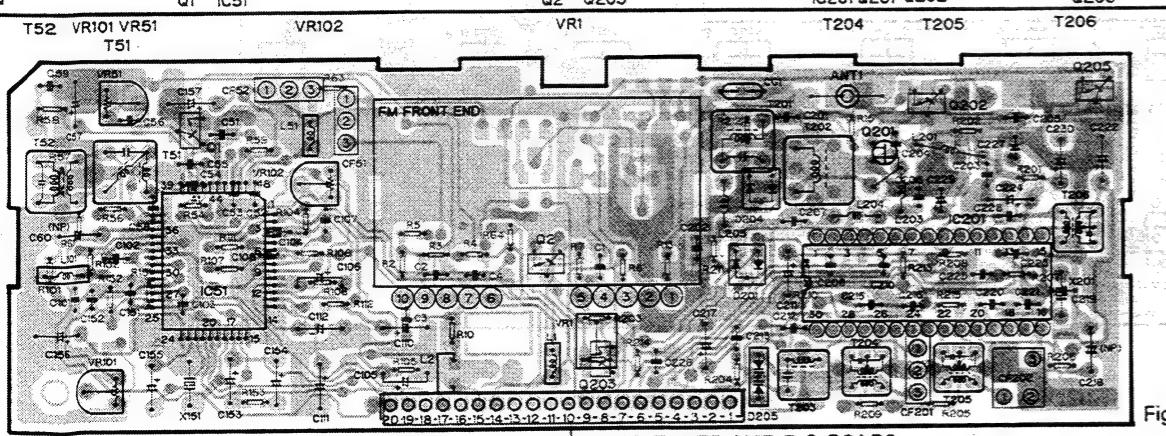
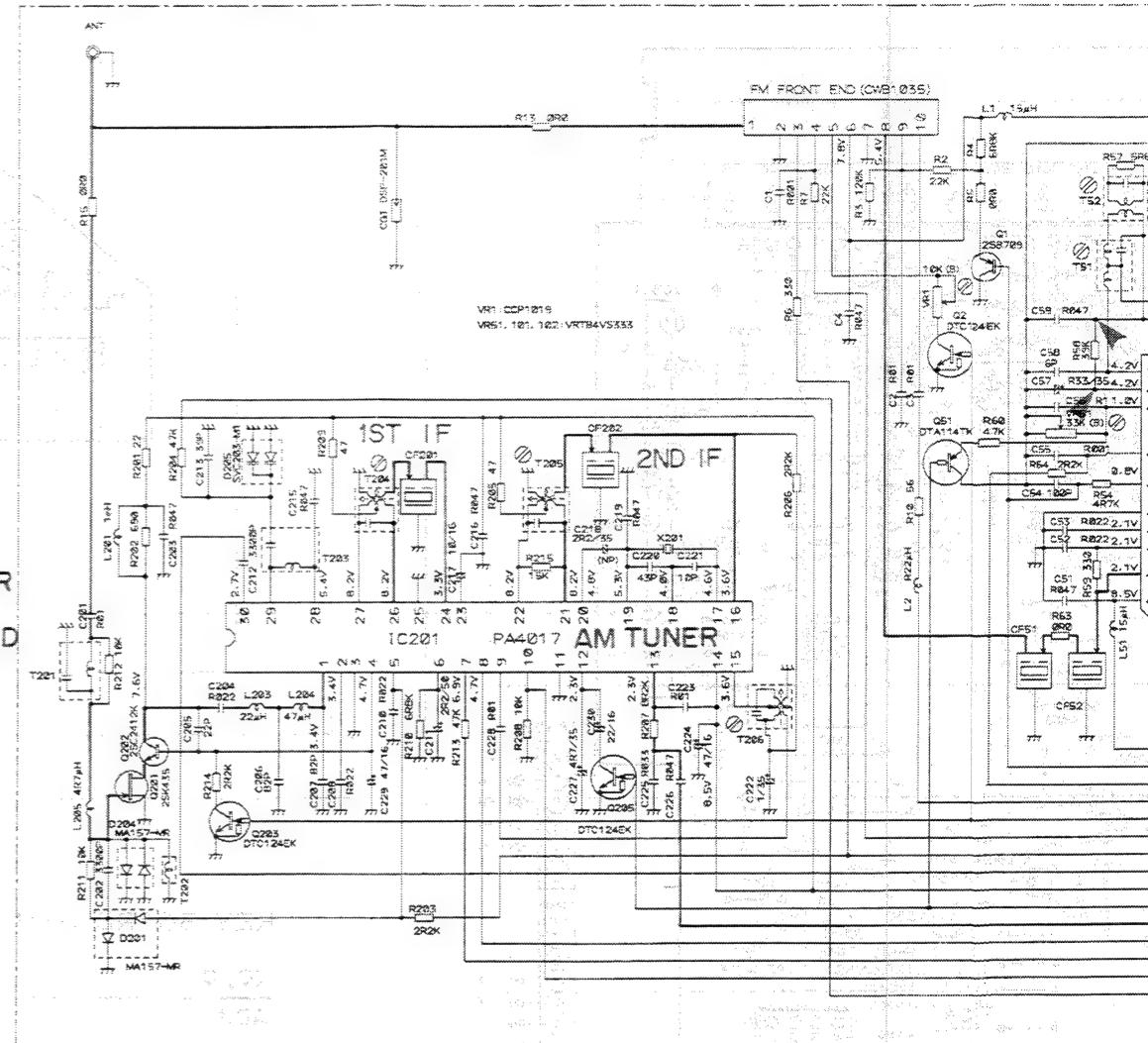


Fig. 11

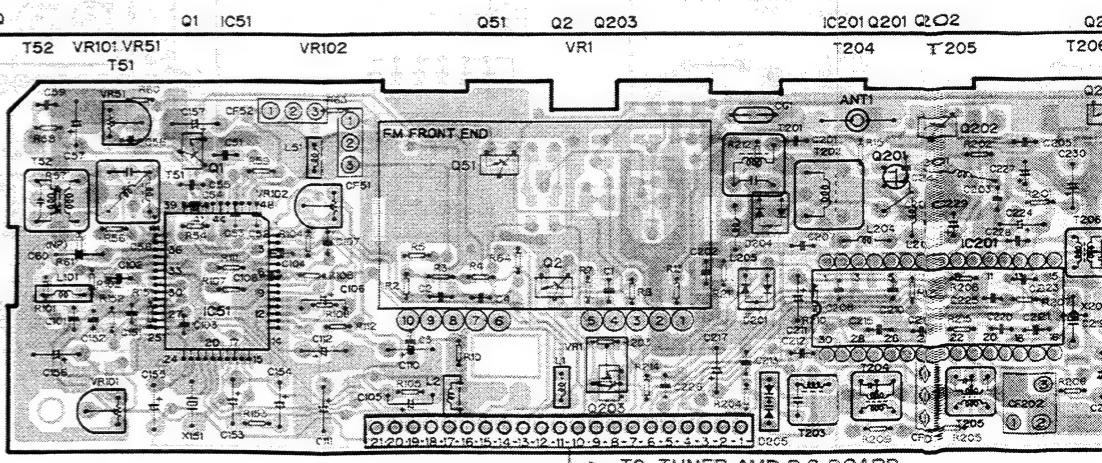
13.2 FM/AM TUNER UNIT (KEH-M6300SDK/WG)



NOTE:

- Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.
- Symbol indicates a capacitor.
No differentiation is made between chip capacitors and

Decimal points for
and capacitor fixed
are expressed as:
2.2-2R2
0.022-R022



→ TO TUNER AMP P.C.BOARD

13.3 FM/AM TUNER UNIT (KEH-M6200/UC)

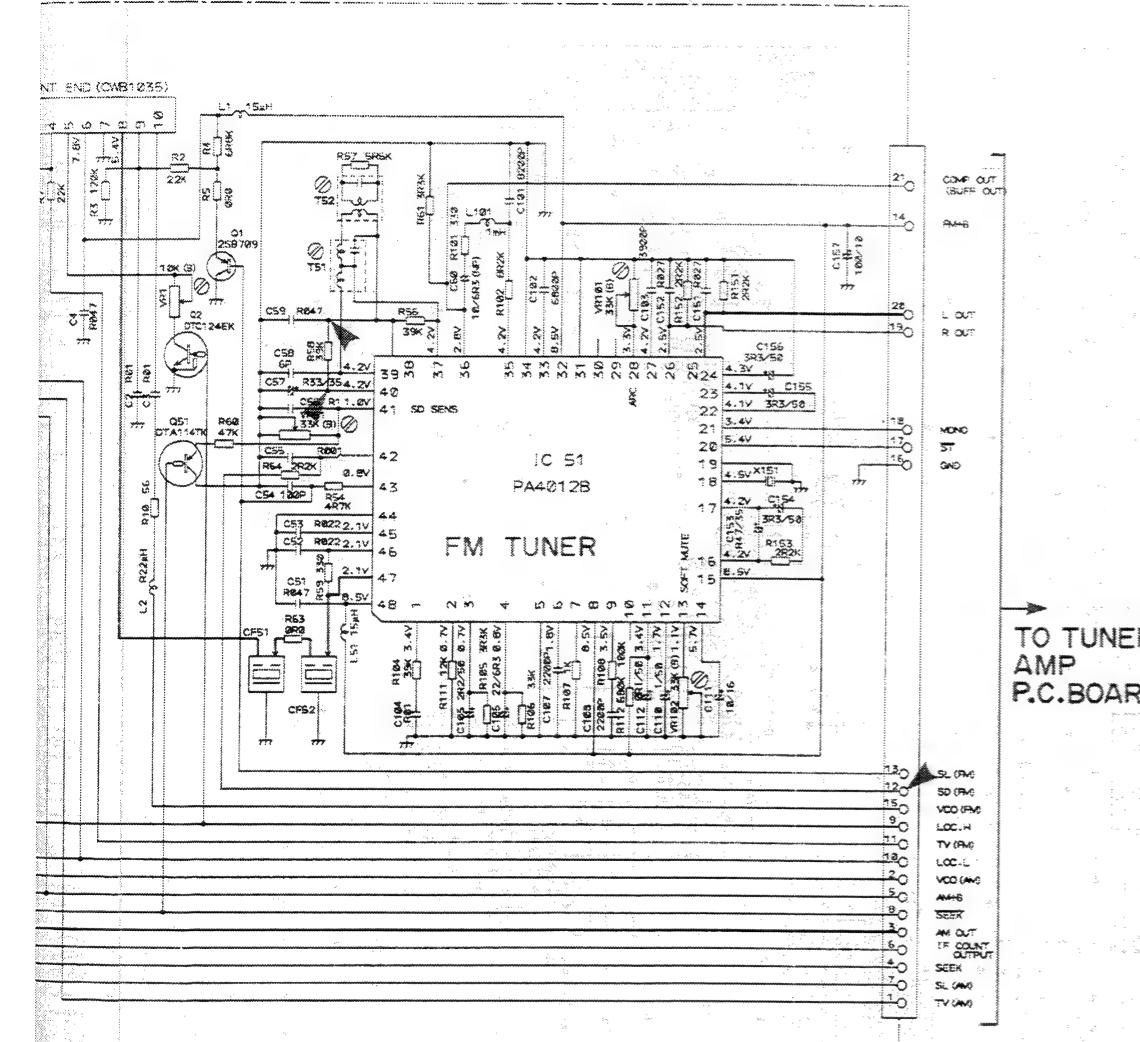


Fig. 12

Decimal points for resistor and capacitor fixed values are expressed as:
2.2-2R2
0.022-R022

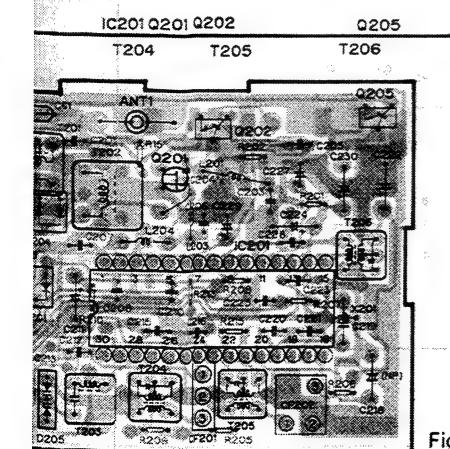


Fig. 13

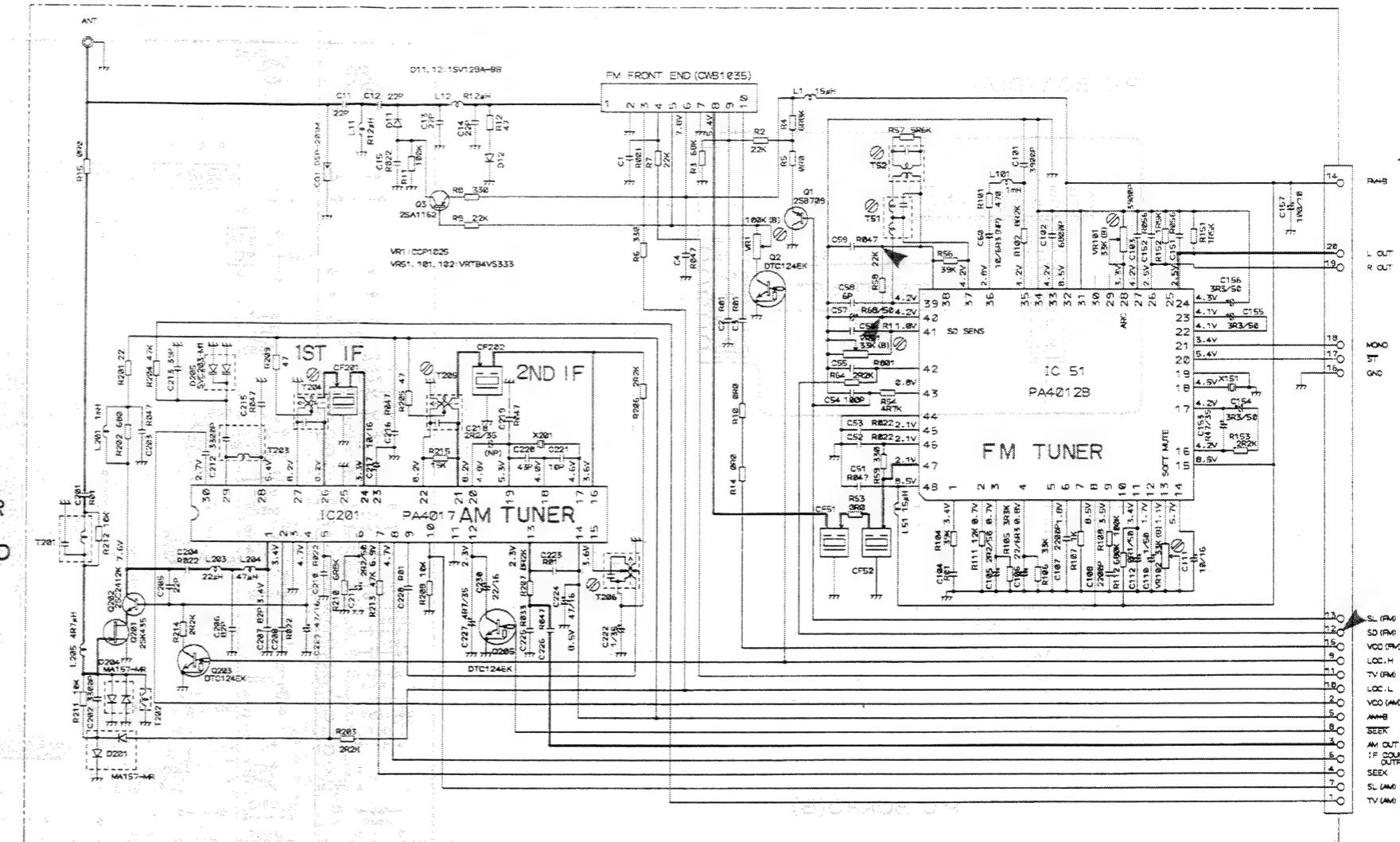


Fig. 14

NOTE:
Symbol indicates a resistor.
No differentiation is made between chip resistors and discrete resistors.

Decimal points for resistor and capacitor fixed values are expressed as:
2.2-2R2
0.022-R022

Symbol indicates a capacitor.
No differentiation is made between chip capacitors and discrete capacitors.

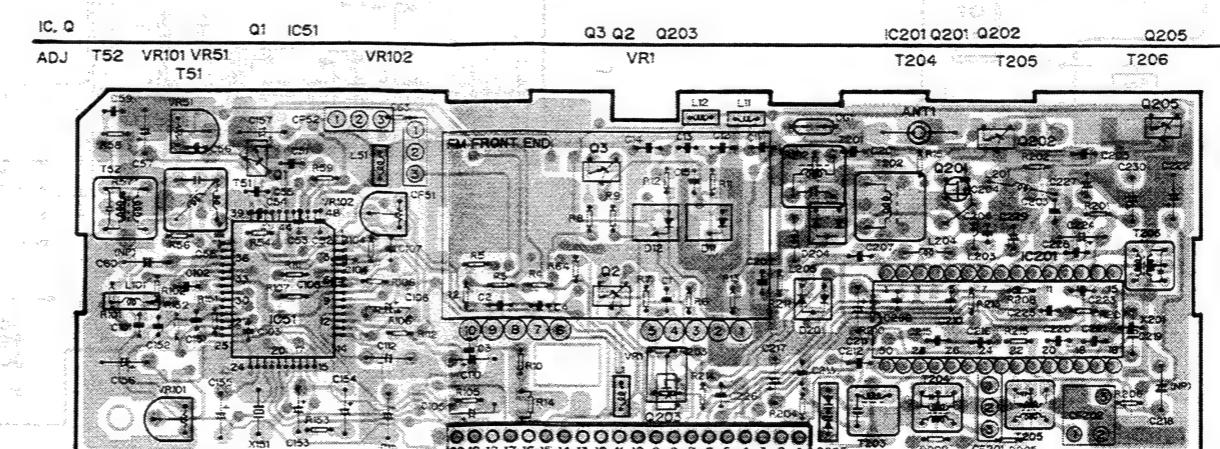


Fig. 15

13.4 FM/AM TUNER UNIT (KEH-M6250/ES)

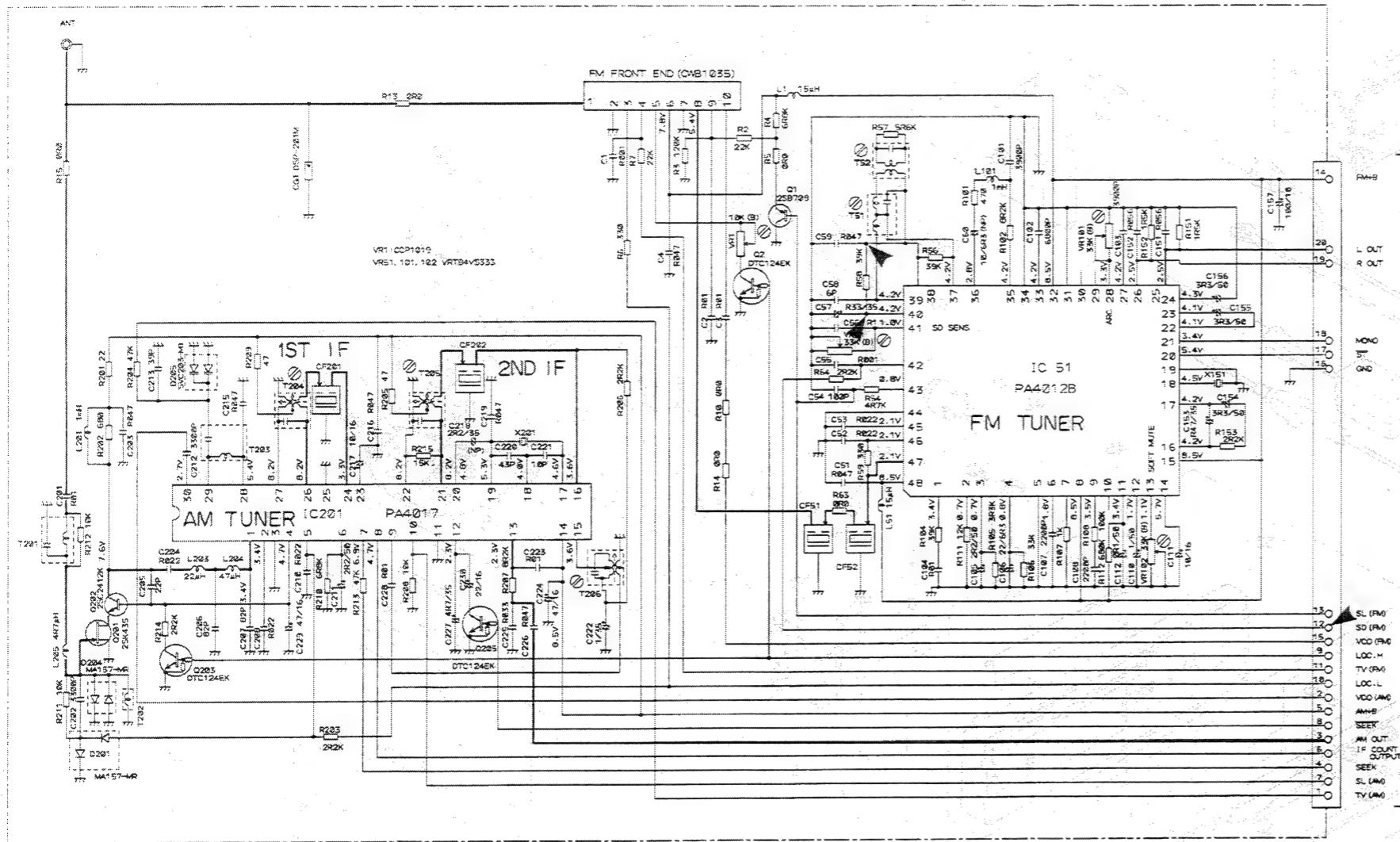
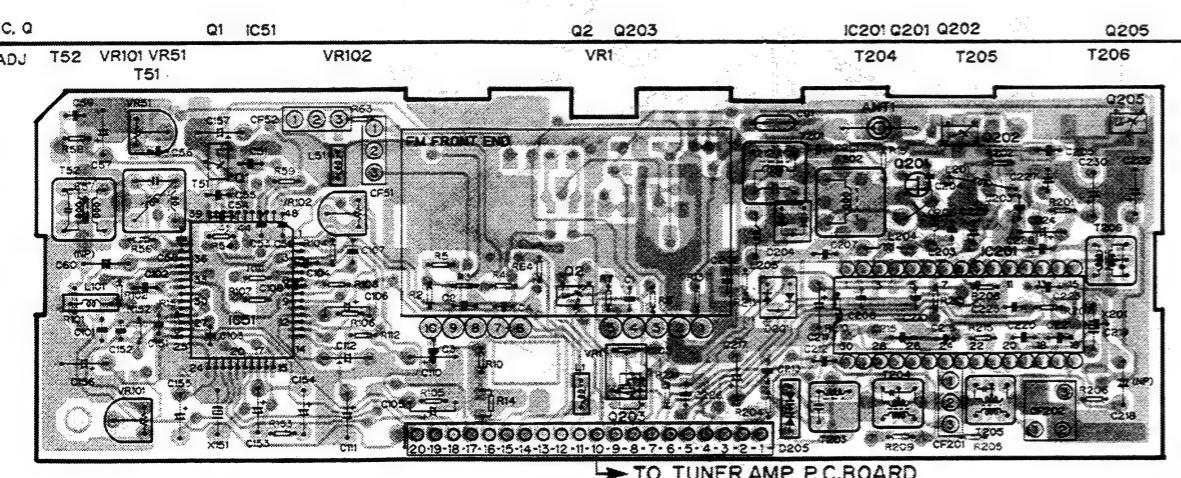


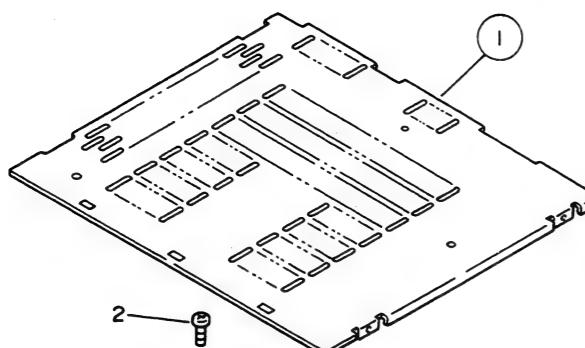
Fig. 16



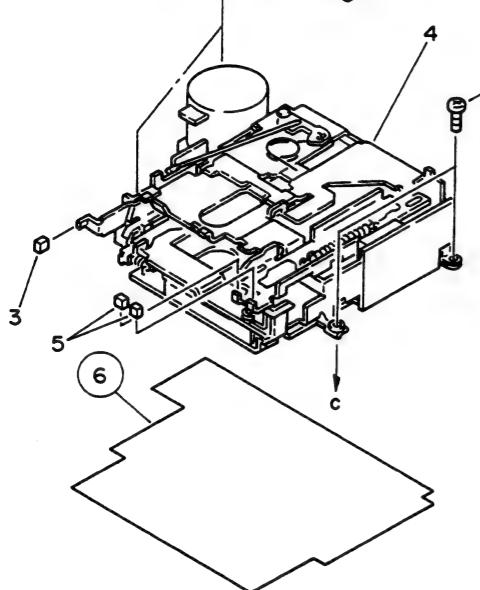
1 | 2 | 3 | 4 | 5 | 6

14. CHASSIS EXPLODED VIEW

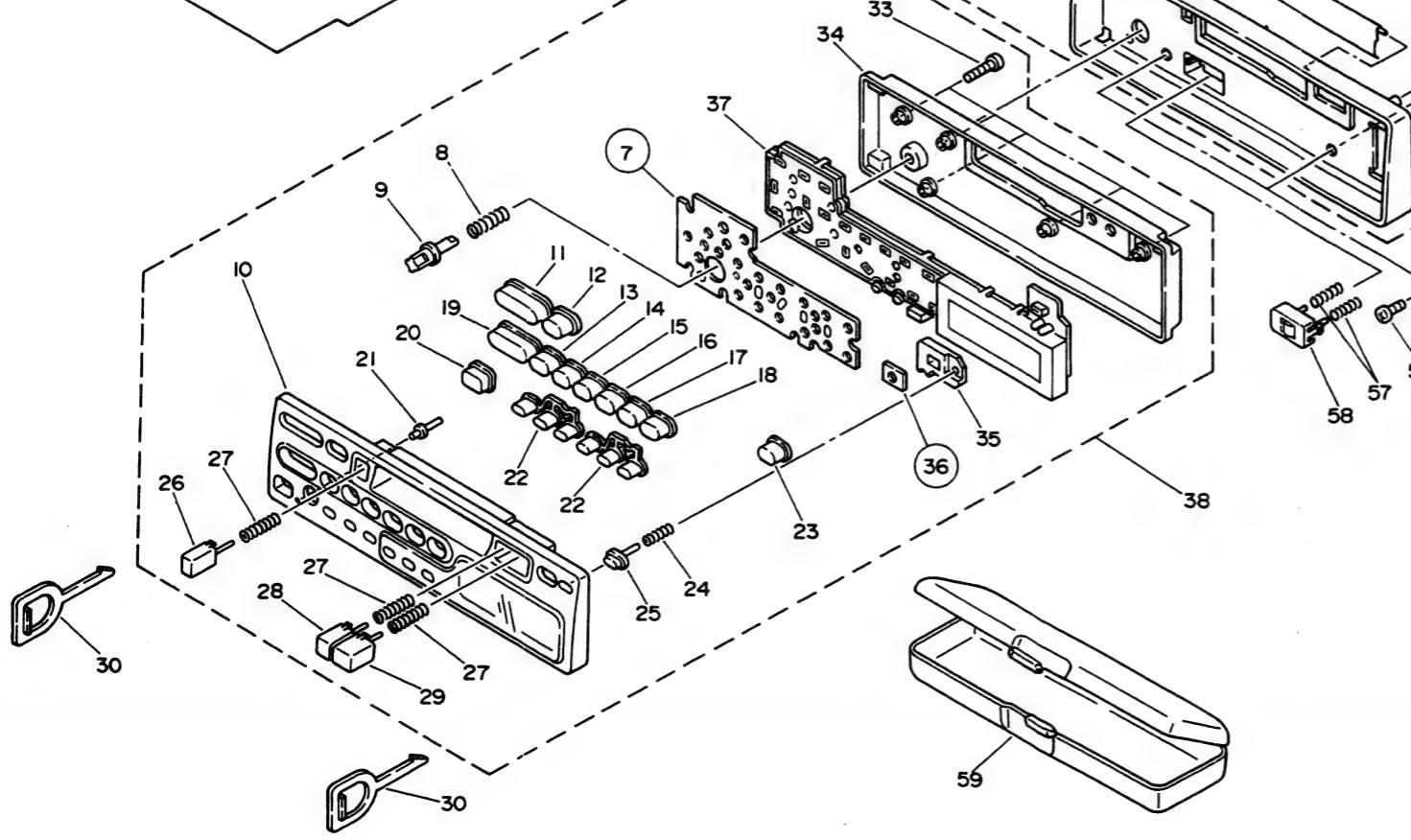
A



B



C



D



43

1

2

3

4

5

6

D

A

B

C

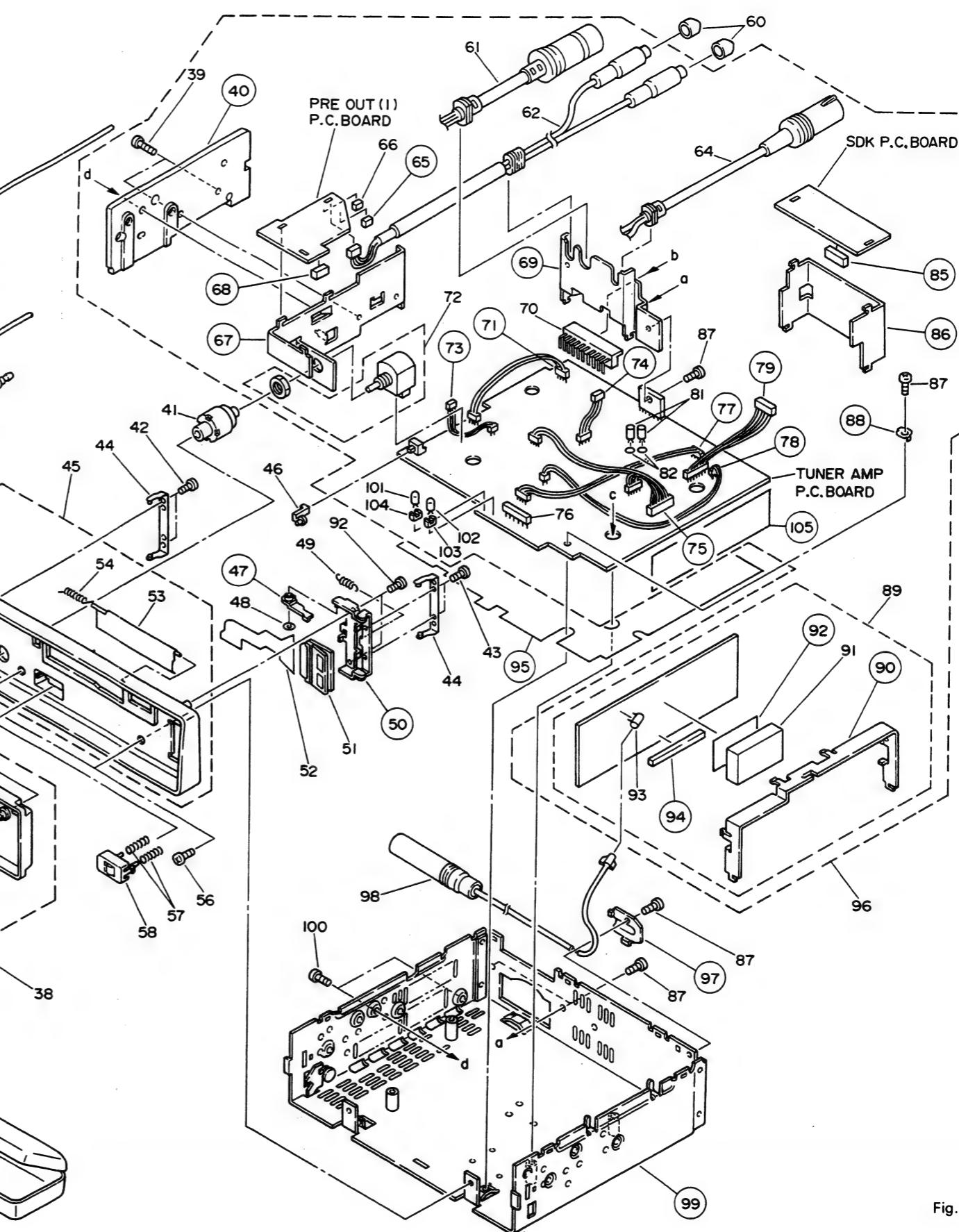


Fig. 18

•Parts List (KEH-M6300/EW)

NOTE:

- The parts marked with "◎" may need long time to supply and their supply is subject to refuse as the case may be.
- Because the parts with encircled number shown on the dismantling drawing are not spare parts, we are unable to supply them in principle.

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Case	CNB1431	45	Panel Unit	CXA4155
2	Screw	BMZ26P050FMC	46	Button	CAC2988
3	Button	CAC2819	47	Arm Unit	CXA4000
◎ 4	Cassette Mechanism Assy	EXK1735	48	Washer	CBF1037
			49	Spring	CBH1395
5	Button	CAC2820	50	Holder Unit	CXA3999
6	Cover	CNM3157	51	Socket	CKS1664
7	Cushion	CNM3155	52	P.C. Board	CNP2597
8	Spring	CBH1391	53	Door	CAT1360
9	Knob(Fader)	CAA1272	54	Spring	CBH1350
10	Grille Unit	CXA4147	55	Panel	CNS2260
11	Button(Vol)	CAC2821	56	Screw	CBA1154
12	Button(Shift)	CAC2822	57	Spring	CBH1393
13	Button(1)	CAC2811	58	Button Unit	CXA3850
14	Button(2)	CAC2812	59	Case	CNS2269
15	Button(3)	CAC2813	60	Cap	CNW-829
16	Button(4)	CAC2937	61	DIN Connector Cord	CDE3419
17	Button(5)	CAC2815	62	Connector	CDE3378
18	Button(6)	CAC2816	63	.....
19	Button(Tune)	CAC2828	64	.....
20	Button(-)	CAC2817	65	Plug	CKS-783
21	Button(Clear)	CAC2829	66	Plug	CKS1224
22	Button Unit	CXA4132	67	Holder	CNC3579
23	Button(SD)	CAC2826	68	Plug	CKS-785
24	Spring	CBH1390	69	Holder	CNC3581
25	Button	CAC2827	70	Plug	CKS-467
26	Button(Eject)	CAC2823	71	.....
27	Spring	CBH1388	72	.....
28	Button(REW)	CAC2824	73	Connector	CDE3208
29	Button(FF)	CAC2825	74	Connector	CDE3173
30	Handle	CNC3664	75	Connector	CDE3174
31	Holder	CNC3342	76	Connector	CKS1260
32	Cord	CDE3180	77	Connector	CDE3210
33	Screw	BPZ20P120FZK	78	Connector	CDE3222
34	Grille Cover	CNS2259	79	.....
35	Lens	CNV2774	80	.....
36	Cushion	CNM3156	81	Capacitor	CCH1016
◎ 37	Key Board Unit	CWM2697	82	Spacer	CNW-662
38	Grille Assy	CXA4177	83	.....
39	Screw	BMZ30P120FMC	84	.....
40	Heat Sink	CNC3747	85	.....
41	Knob	CAA1250	86	.....
42	Screw	CBA1179	87	Screw	BMZ30P050FMC
43	Screw	PMZ20P030FMC	88	Holder	CNC2218
44	Holder Unit	CXA3998	◎ 89	FM/AM Tuner Unit	CWE1228

Mark No.	Description	Part No.	Mark No.	Description	Part No.
90 Holder	CNC3395		100 Screw	BMZ30P080FMC	
91 FM Front End	CWB1035		101 Lamp (Green)	CEL1207	
92 Insulator	CNM2105		102 Lamp	CEL1208	
93 Antenna Jack	CKX1010		103 Holder	CNV1906	
94 Plug	CKS1628		104 Holder	CNV1906	
			105 Insulator	CNM3199	
95 Insulator	CNM2941				
⑥ 96 Tuner Amp Unit	CWM2680				
97 Holder	CNC2913				
98 Antenna Cable	CDH1128				
99 Chassis Unit	CXA4191				

	M6300/EW	M6300SDK	M6300/IT	M6200/UC	M6250/ES
No. Description	Part No.	Part No.	Part No.	Part No.	Part No.
8 Spring	----	----	----	CBH1391	CBH1391
9 Knob	----	----	----	CAA1272	CAA1272
10 Grille Unit	CXA4147	CXA4146	CXA4147	CXA4148	CXA4149
11 Button	CAC2821	CAC2821	CAC2821	CAC2932	CAC2821
17 Button	CAC2815	CAC2815	CAC2815	CAC2938	CAC2938
18 Button	CAC2816	CAC2816	CAC2816	CAC2939	CAC2939
19 Button	CAC2828	CAC2828	CAC2828	CAC2933	CAC2828
32 Cord	CDE3180	CDE3180	CDE3180	CDE3181	CDE3183
34 Grille Cover	CNS2259	CNS2259	CNS2259	CNS2151	CNS2151
⑥ 37 Key Board Unit	CWM2697	CWM2697	CWM2700	CWM2699	CWM2699
38 Grille Assy	CXA4177	CXA4178	CXA4281	CXA4180	CXA4181
41 Knob	----	----	----	CAA1250	CAA1250
45 Panel Unit	CXA4155	CXA4155	CXA4155	CXA4157	CXA4156
62 Connector	CDE3378	CDE3378	CDE3378	CDE3165	CDE3165
66 Plug	CKS1224	CKS1224	CKS1224	----	----
71 Connector	----	----	----	CDE3171	CDE3171
72 Volume	----	----	----	CCS1186	CCS1186
79 Connector	----	CDE3170	----	----	----
85 Plug	----	CKS1040	----	----	----
86 Holder	----	CNC3577	----	----	----
⑥ 89 FM/AM Tuner Unit	CWE1228	CWE1227	CWE1228	CWE1225	CWE1226
⑥ 96 Tuner Amp Unit	CWM2680	CWM2681	CWM2762	CWM2683	CWM2684
99 Chassis Unit	CXA4191	CXA4290	CXA4191	CXA4191	CXA4191
101 Lamp	----	----	CEL1207	----	----
102 Lamp	CEL1208	CEL1208	----	CEL1025	CEL1025
103 Holder	CNV1906	CNV1906	----	CNV1906	CNV1906
104 Holder	----	----	CNV1906	----	----

15. KEY BOARD UNIT EXPLODED VIEW

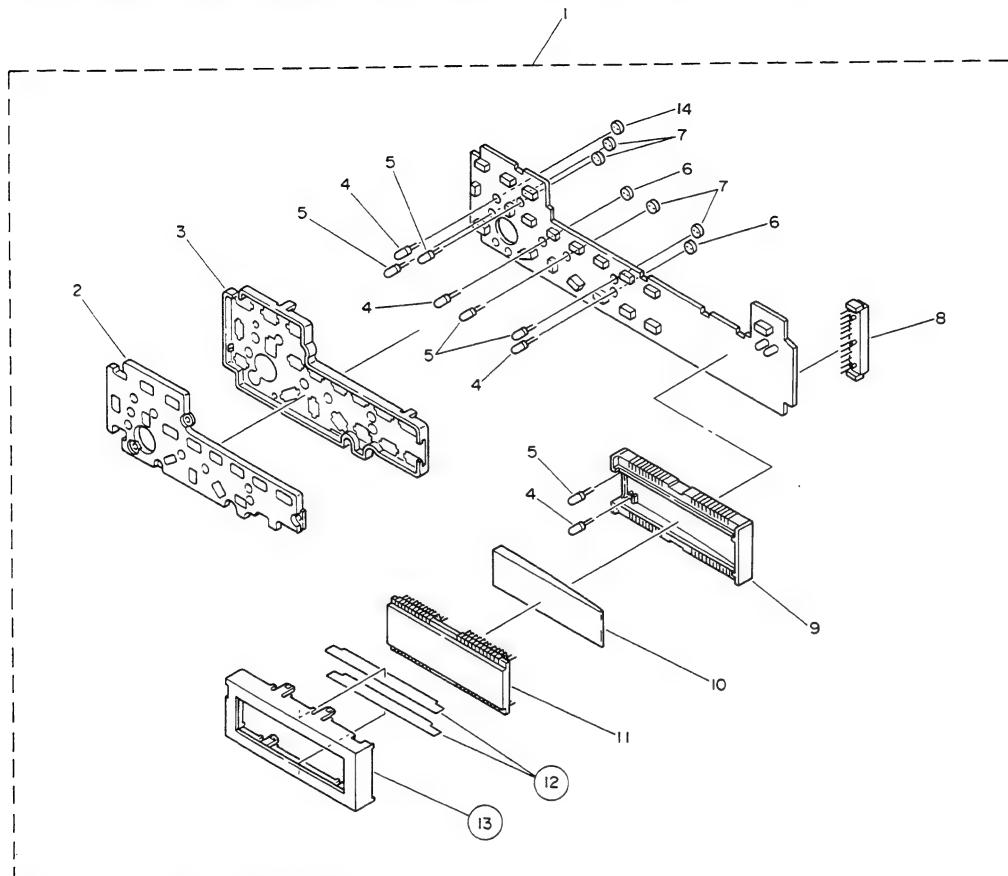


Fig. 19

•Parts List (KEH-M6300/EW)

Mark No.	Description	Part No.	Mark No.	Description	Part No.
① 1	Key Board Unit	CWM2697	6	Bush	CNV1859
2	Lens	CNV2688	7	.....
3	Holder	CNV2684	8	Plug	CKS1663
4	Lamp	CEL1208	9	Holder	CNV2685
5	.....		10	Lens	CNV2686
			11	LCD	CAW1124
			12	Insulator	CNM3051
			13	Holder	CNC3576
			14	Spacer	CNM1642

	M6300/EW	M6300SDK	M6300/IT	M6200/UC	M6250/ES
No. Description	Part No.	Part No.	Part No.	Part No.	Part No.
① 1	Key Board Unit	CWM2697	CWM2700	CWM2699	CWM2699
4	Lamp	CEL1208	----	CEL1025	CEL1025
5	Lamp	----	CEL1207	----	----
6	Bush	CNV1859	----	CNV1859	CNV1859
7	Bush	----	CNV1859	----	----
14	Spacer	CNM1642	----	CNM1642	CNM1642

16. CASSETTE MECHANISM ASSY EXPLODED VIEW

•Parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1 Gear	ENV1212	46 Gear	ENV1262		
2 Gear	ENV1211	47 Spring	EBH1337		
3 Gear	ENV1203	48 Arm	ENC1236		
4 Washer	CBF1037	49 Lever Unit	EXA1173		
5 Washer	CBF1038	50 Arm	ENC1237		
6 Spring	EBH1338	51 Spring	EBH1335		
7 Screw	JFZ17P035FNI	52 Shaft			
8 Shaft	ELA1259	53 Screw	JFZ20P025FNI		
9 Gear	ENV1230	54 Collar	ELA1229		
10 Gear	ENV1274	55 Screw	JFZ20P040FNI		
11 Gear	ENV1264	56 Washer	EBF1015		
12 Gear	ENV1204	57 Spring	EBH1372		
13 Screw	JFZ17P018FNI	58 Collar	ELA1220		
14 Collar	ELA1244	59 Lever	ENC1269		
15 Arm	ENC1241	60 Spring	EBH1361		
16 Arm	ENV1261	61 Gear	ENV1205		
17 Sub Chassis Unit	EXA1169	62 Screw	CBA1054		
18 Screw	BMZ20P025FMC	63 Screw	CBA1038		
19 Spring (Black)	EBH1306	64 Screw	CBA1015		
20 Tube		65 Plug	CKS1056		
21 Gear Unit	EXA1159	66 Head Unit	EXA1163		
22 Spring	EBH1308	67 P.C. Board	ENP1042		
23 Holder	ENC1205	68 Switch	ESN1005		
24 Lever	ENC1243	69 Spring	EBH1334		
25 Lever	ENC1235	70 Gear	ENV1208		
26 Spring	EBH1307	71 Spring	EBH1333		
27 Real Unit	EXA1167	72 Arm	ENC1240		
28 Washer	YE15FUC	73 Screw	BSZ20P040FMC		
29 Arm	ENC1221	74 Arm	ENV1265		
30 Spring	EBH1305	75 Spring	EBH1336		
31 Spring	EBH1364	76 Arm Unit	EXA1171		
32 Frame	ENC1204	77 Flywheel Unit	EXA1161		
33 Arm	ENC1215	78 Gear	ENV1229		
34 Shaft	ELA1251	79 Belt	ENT1020		
35 Lever	ENV1222	80 Arm	ENV1206		
36 Head Base Unit	EXA1203	81 Spring	EBH1317		
37 Washer	YE12FUC	82 Chassis Unit	EXA1168		
38 Solenoid	EXP1008	83 Screw	PMS26P025FUC		
39 Spring	EBH1353	84 Pulley	ENV1207		
40 Lever Unit	EXA1172	85 Gear	ENV1209		
41 Bracket	ENC1239	86 Belt	ENT1018		
42 Spring	EBH1339	87 Spring (Silver)	EBH1322		
43 Screw	EBA1023	88 Lever (FF)	ENC1244		
44 Screw	BMZ20P025FMC	89 Spring (Brown)	EBH1365		
45 Spring	EBH1340	90 Motor Unit	EXA1162		

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•Cassette Mechanism Assy

A

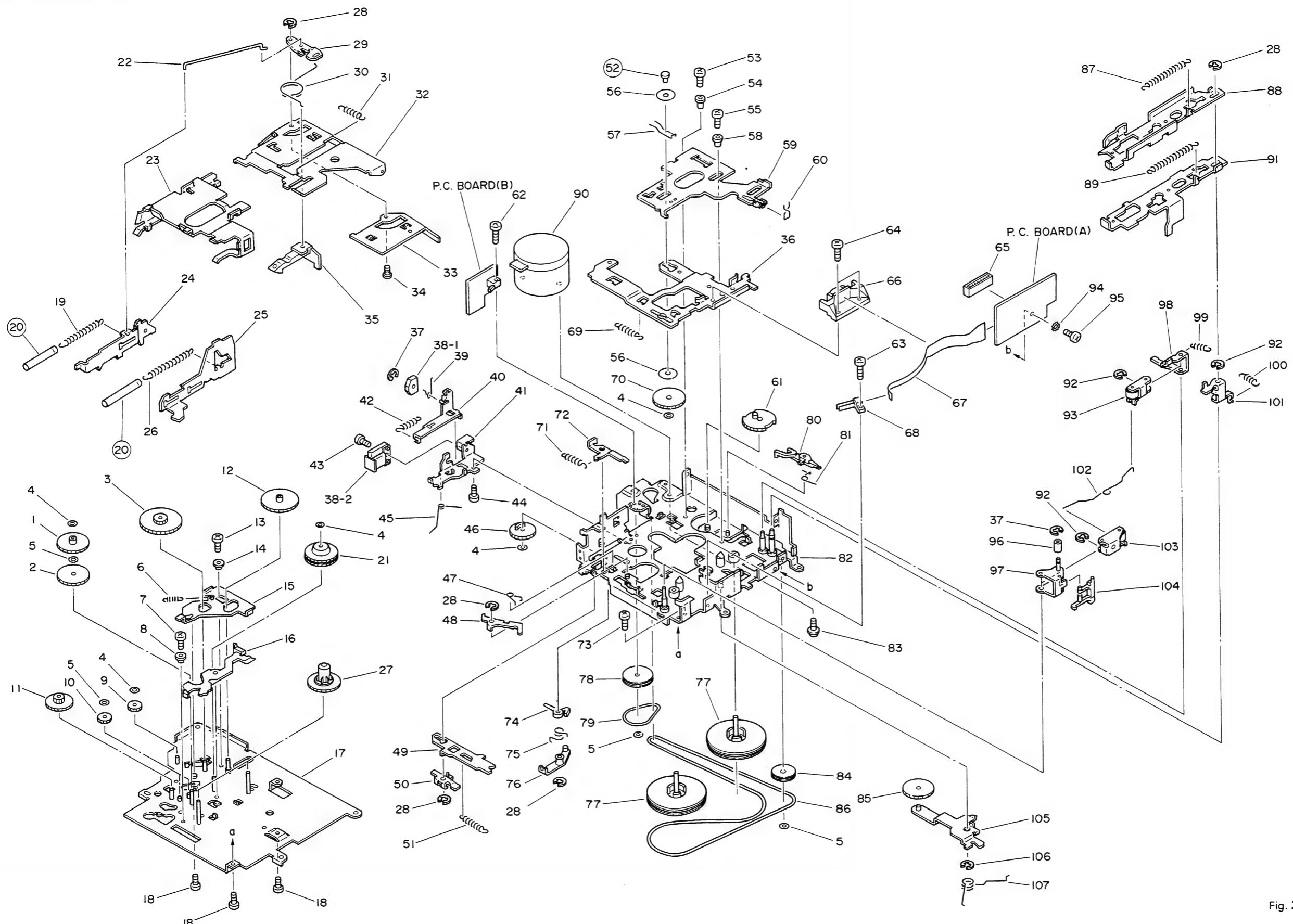


Fig. 20

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Mark No.	Description	Part No.	Mark No.	Description	Part No.
91	Lever (REW)	ENC1245	101	Arm	ENC1264
92	Washer	YE20FUC	102	Spring	EBH1366
93	Pinch Roller Unit	EXA1193	103	Pinch Roller Unit	EXA1194
94	Washer	WH23FMC	104	Arm	ENV1227
95	Screw	BSZ23P040FMC	105	Arm Unit	EXA1155
96	Roller	ELA1247	106	Washer	YE30FUC
97	Arm Unit	EXA1166	107	Spring	EBH1310
98	Arm	ENC1266			
99	Spring	EBH1312			
100	Spring	EBH1311			

17. PACKING METHOD

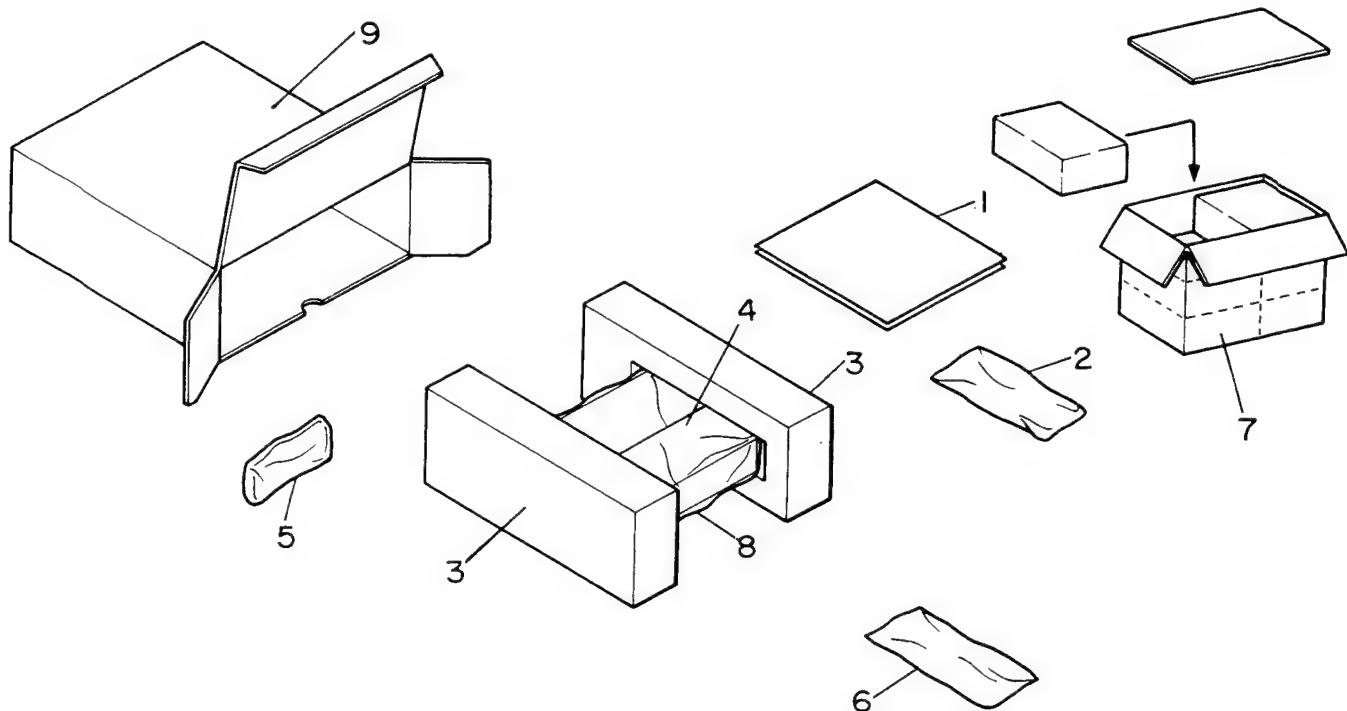


Fig. 21

•Parts List (KEH-M6300/EW)

* :Non spare part

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1-1	Owner's Manual	CRD1478	6-3	Cord	CDE1289
1-2	.....		6-4	Handle (× 2)	CNC3664
* 1-3	Card	CRY-062	6-5	Strap	CNF-111
2	Cord	CDE3180	6-6	Bush	CNV1009
3	Styrofoam	CHP1405	6-7	Nut (× 2)	NF50FMC
* 4	Holder	CNC3342	* 7	Contain Box	CHL1993
5	Case	CNS2269	8	Cover	CEG1092
6	Accessory Assy	CEA1633	9	Carton	CHG1993
6-1	Screw (× 1)	CBA-102			
6-2	Screw (× 1)	CBA1002			

	M6300/EW	M6300SDK	M6300/IT	M6200/UC	M6250/ES
No. Description	Part No.	Part No.	Part No.	Part No.	Part No.
1-1 Owner's Manual	CRD1478	CRD1479	CRD1493	CRD1487	CRD1481
1-3 Installation Manual	----	CRD1491	CRD1491	----	----
* 1-4 Card	CRY-062	CRY-062	CRY-062	ARY1008	----
2 Cord	CDE3180	CDE3180	CDE3180	CDE3181	CDE3183
7 Contain Box	*CHL1993	*CHL1994	*CHL2013	*CHL1995	*CHL1996
9 Carton	CHG1993	CHG1994	CHG2013	CHG1995	CHG1996

Owner's Manual

Part No.	Model	Language
CRD1478	KEH-M6300/EW	English, French, German, Spanish, Portuguese
CRD1479	KEH-M6300SDK	French, German
CRD1493	KEH-M6300/IT	English, French, Italian
CRD1487	KEH-M6200/UC	English, French
CRD1481	KEH-M6250/ES	English, French, Spanish, Arabic

18. ELECTRICAL PARTS LIST

NOTE:

- Parts whose parts numbers are omitted are subject to being not supplied.
- The part numbers shown below indicate chip components.

Chip Resistor

RS1/8S □□□J, RS1/10S □□□J

Chip Capacitor (except for CQS.....)

CKS....., CCS....., CSZS.....

Unit Number :
Unit Name : FM/AM Tuner Unit (KEH-M6300SDK/WG)

MISCELLANEOUS

RESISTORS

Mark	Circuit Symbol & No.	Part Name	Part No.	Mark	Circuit Symbol & No.	Part Name	Part No.
IC 51			PA4012B	R 2 7			RS1/10S223J
IC 201			PA4017	R 3			RS1/10S124J
Q 1	Chip Transistor		2SB709	R 4			RS1/10S682J
Q 2	Chip Transistor		DTC124EK	R 5 13 63			RS1/10S0R0J
Q 51	Chip Transistor		DTA114TK-94	R 6 59 101			RS1/10S331J
Q 201			2SK435	R 10			RS1/10S560J
Q 202			2SC2412K	R 15			RS1/10S0R0J
Q 203 205	Chip Transistor		DTC124EK	R 54			RS1/10S472J
D 201 204	Chip Diode		MA157-WR	R 56 58 104			RS1/10S393J
D 205			SVC203-M1	R 57			RS1/10S562J
L 1 51	Inductor		CTF1241	R 60			RS1/10S473J
L 2	Inductor		CTF1086	R 61 105			RS1/10S332J
L 101	Inductor		CTF1126	R 64			RS1/10S222J
L 201	Inductor		CTF1084	R 102			RS1/10S822J
L 203	Ferrri-inductor		LAU220K	R 106			RS1/10S333J
L 204	Ferrri-inductor		LAU470K	R 107			RS1/10S102J
L 205	Ferrri-inductor		LAU4R7K	R 108			RS1/10S104J
T 51	Coil		CTE1021	R 111			RS1/10S123J
T 52	Coil		CTE1022	R 112			RS1/10S684J
T 201	Coil		CTB1020	R 151 152 153			RS1/10S222J
T 202	Coil		CTB1004	R 201			RS1/10S220J
T 203	Coil		CTB1040	R 202			RS1/10S681J
T 204	Coil		CTE1037	R 203 206 214			RS1/10S222J
T 205	Coil		CTE1038	R 204 213			RS1/10S473J
T 206	Coil		CTE1039	R 205 209			RS1/10S470J
CG 1			DSP-201M-S008	R 207			RS1/10S822J
CF 51 52	Ceramic Filter		CTF182	R 208 211 212			RS1/10S103J
CF 201	Ceramic Filter		CTF1041	R 210			RS1/10S682J
CF 202	Filter		CTF1085	R 215			RS1/10S153J
X 151	Ceramic Resonator		CSS1055				
X 201	Crystal Resonator		CSS1014				
VR 1	Semi-fixed		CCP1019				
VR 51 101 102	Semi-fixed 33kΩ (B)		VRTB4VS333				
	FM Front End		CWB1035				

CAPACITORS

Mark =====	Circuit Symbol & No.	==== Part Name	Part No.
C 1		CKSQYB102K50	IC 701 IC 951
C 2 3 104		CKSQYB103K50	Q 351 352 551 552 807 808
C 4 59		CKSQYF473Z25	Q 451 452 453 454
C 51		CKSQYF473Z25	Q 455 509
C 52 53		CKSQYB223K25	Q 456 800 Q 457 458 502 506 950 958 959 962 975
C 54		CCSOSL101J50	Q 501 504 703 963 969
C 55		CKSQYB102K50	Q 503
C 56		CKSQYF104Z25	Q 505
C 57		CSZAR3X35	
C 58		CCSOCH060D50	Q 510 Q 550 553 976
C 60		CEALNP100M6R3	Q 554 805 806 966
C 101		CKSQYB822K50	Q 701
C 102		CKSQYB682K50	Q 702
C 103		CKSQYB392K50	
C 105		CEA2R2M50LL	Q 801 802 Q 917
C 106		CEA220M6R3LL	Q 918 978
C 107 108		CKSQYB222K50	Q 951 952 953
C 110		CEA010M50LL	Q 954
C 111		CEA100M16LL	
C 112		CEA0R1M50LL	Q 955 956 Q 957 961 964
C 151 152		CKSQYB273K25	Q 960 977
C 153		CSZAR47M35L	Q 965
C 154 155 156		CEA3R3M50LL	Q 974
C 157		CEA101M10LS	
C 201 223 228		CKSQYB103K25	D 350 440 505 506 507 511 D 450
C 202 212		CKSQYB332K50	D 451 452 453 454 501 502 550 551 552
C 203 215 216 219 226		CKSQYF473Z25	D 503 700
C 204 208 210		CKSQYB223K25	D 553 907
C 205		CCSOCH220J50	
C 206 207		CCSOCH820J50	D 908 D 951
C 211		CEA2R2M50LL	D 952
C 213		CCSOCH390J50	D 953 958 959
C 217		CEA100M16LL	D 954
C 218		CEA2R2M35NPLL	
C 220		CCSOCH430J50	D 957 L 501
C 221		CCSOCH100D50	L 952
C 222		CSZA010K35L	IB 501
C 224		CEA470M16LL	IB 505
C 225		CKSQYB333K25	
C 227		CEA4R7M35LS	IB 951
C 229		CEA470M16LS	IB 953
C 230		CEA220M16LL	IB 954
		X 501	Crystal Resonator

Unit Number :

Unit Name : Tuner Amp Unit (KEH-M6300SDK/WG)

Tuner Amp Unit
Consists of
• Tuner Amp P.C. Board • SDK P.C. Board

MISCELLANEOUS

Mark =====	Circuit Symbol & No.	==== Part Name	Part No.	Mark =====	Circuit Symbol & No.	==== Part Name	Part No.
IC 350		TA8162SN	R 351 352				RS1/10S104
IC 351		CXA1102P	R 353 354				RS1/10S133
IC 451		KHA272	R 355 356				RS1/10S183
IC 501		TA8215H-A	R 357 358				RS1/10S334
IC 502		PD4302	R 359 360				RS1/10S181

RESISTORS

Mark ===== Circuit Symbol & No. ===== Part Name Part No.

IC 350	TA8162SN	R 351 352	RS1/10S104
IC 351	CXA1102P	R 353 354	RS1/10S133
IC 451	KHA272	R 355 356	RS1/10S183
IC 501	TA8215H-A	R 357 358	RS1/10S334
IC 502	PD4302	R 359 360	RS1/10S181

Mark	Circuit Symbol & No.						Part Name	Part No.	Mark	Circuit Symbol & No.						Part Name	Part No.
R	361	362	502	522				RS1/10S222J	R	922							RS1/8S472J
R	366	501	504	955	957	958		RS1/10S103J	R	923							RS1/10S472J
R	367	537	954					RS1/10S473J	R	950							RS1/8S0R0J
R	369							RD1/4PS154JL	R	951							RS1/8S681J
R	370							RS1/10S154J	R	952	971						RD1/2PS681JL
R	371	372						RS1/10S473J	R	953							RS1/8S223J
R	375							RS1/10S0R0J	R	959	965						RS1/10S102J
R	379							RS1/10S0R0J	R	960	977	978	979	980	981		RS1/8S103J
R	380	381	822	873				RS1/10S0R0J	R	969							RS1/10S1R0J
R	382	383	384	614	615	616	988	989	990	RS1/8S0R0J	R	974					RD1/4PS152JL
R	385	386	486	618	992			RS1/8S0R0J	R	999							RD1/4PM104J
R	389	824	993					RS1/8S0R0J									
R	390							RS1/8S0R0J									CAPACITORS
R	392							RS1/10S104J									
R	393							RS1/8S0R0J									
R	451	452	509	961				RD1/4PS473JL	C	350							CEA101M10LS
R	453	454						RS1/10S102J	C	351	352						CCSOCH581J50
R	455	456	524	527	529	805	806	RS1/10S473J	C	353	354	363	701	705	914	954	CEA470M16LS
R	457							RS1/8S223J	C	355	356	510	514				CKSQYB103K50
R	458							RD1/4PM223J	C	357	361	362	955	958			CEA100M16LS2
R	459	460						RS1/10S563J	C	358	380	381	451	452	453	454	CEA4R7M35LS
R	461	462						RS1/10S333J	C	359	360						CEA10M50LS2
R	469	470	475	476	541	542	547	RS1/10S0R0J	C	364	555						CKSQYF104Z25
R	473	474						RS1/10S183J	C	365							CEA101M10LS
R	479	483	605	987				RS1/10S0R0J	C	367	368						CEAR68M50LS2
R	480	482						RS1/10S0R0J	C	383	384						CCH1016
R	485	606	607	608	610	611	613	RS1/8S0R0J	C	455	953						CEA470M16L2
R	487	520	521	815	816	920	985	986	RS1/10S102J	C	456						CEA100M16LS2
R	503	563	819	820	970			RS1/10S223J	C	500							CASAQ4R7M10
R	505	801	802					RS1/10S221J	C	501							CCG1008
R	506							RD1/4PS222JL	C	502	504	505	507	520	702		CKPYY103M16L
R	507							RD1/4PS392JL	C	509	526						CKSYB102K50
R	508							RS1/10S823J	C	511							CKPYB101K50L
R	510	516						RS1/10S472J	C	512							CKSYB681K50
R	511	534						RS1/8S104J	C	513							CCSOCH101J50
R	512							RD1/4PM102J	C	515							CCH1005
R	513							RS1/10S152J	C	516							CEAR47M50LS2
R	514							RS1/10S182J	C	517							CCH1112
R	515	519	956					RS1/10S191J	C	518							CCSOCH100D50
R	517							RS1/10S331J	C	525							CCSOCH090D50
R	518							RS1/10S821J	C	527							CKSQYF104Z25
R	523	564	703	921	973			RS1/10S222J	C	528							CKSQYB473K25
R	525							RS1/10S474J	C	550							CEA101M10L2
R	526							RD1/4PM102J	C	551	552						CEHAS4R7M35
R	530	531						RS1/10S681J	C	553	554	805	806	962			CKSQYB102K50
R	532	533						RS1/8S681J	C	556							CEHAQ101M10
R	538							RS1/10S563J	C	557	558						CEHAQ470M25
R	539							RS1/10S0R0J	C	559	561	562					COEA224J63
R	540							RS1/10S104J	C	560							COEA224J63
R	543	544	545	546	549	601	602	821	RS1/10S0R0J	C	563						CEA0RIM50LS2
R	548							RS1/10S102J	C	564							CEA472M16L2
R	550							RS1/10S391J	C	600							CASAQ100M10
R	553							RD1/4PS392JL	C	703							CQMA683J50LL
R	554							RD1/4PM392J	C	704							CEAR33M50LS2
R	555	556						RD1/4PS471JL	C	800							CEA221M10L2
R	557	558	559	560				RD1/4PS4R7JL	C	801	802	807	808				CEA4R7M35LS
R	561	562						RS1/10S152J	C	803	804						CEALNP100M16
R	701							RS1/8S473J	C	913							CEA220M16LS
R	702							RS1/10S684J	C	951							CCH1019
R	800							RS1/10S470J	C	952	963						CKSQYB473K25
R	803	804						RS1/10S223J	C	956							CCG1008
R	807	808	817	818				RS1/10S471J	C	961							CEA2R2M50LS2
R	809	810						RS1/10S681J	C	964							CKSQYB103K50
R	811	812						RS1/10S133J									
R	813	814						RS1/10S472J									

KEH-M6300

Unit Number :
Unit Name : Key Board Unit(KEH-M6300SOK/WG)

MISCELLANEOUS

Mark	Circuit Symbol & No.	Part Name	Part No.
IC	901		S-80740AH
IC	902		PD4285
IC	903		LC7582A
D	901 902 903 904 905	Chip Diode	DCC010
L	901	Ferrri-inductor	LAU101K
X	901	Ceramic Resonator	CSS1050
IL	908 909 910 911 913	Lamp(Orange)	CEL1208
S	901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919	CSG-253 Switch	CAW1124
	LCD		

RESISTORS

Mark	Circuit Symbol & No.	Part Name	Part No.
R	901 902 903 904 905		RS1/8S103J
R	906		RS1/10S104J
R	907		RS1/10S473J
R	908		RS1/10S103J
R	909 910 911 912 913 914 915 916 917 918		RS1/10S471J

CAPACITORS

Mark	Circuit Symbol & No.	Part Name	Part No.
C	901		CEA470M6R3L5
C	902		CKSQYF473Z25
C	903		CCSQCH331J50
C	904 905		CKSQYB103K50
C	906 907		CCSQCH221J50
C	908 909 910 911 912		CKSQYB152K50

Unit Number :

Unit Name : P.C. Board(A)

Mark	Circuit Symbol & No.	Part Name	Part No.
S	2	Switch(FWD/REV)	ESH1003

Unit Number :

Unit Name : P.C. Board(B)

Mark	Circuit Symbol & No.	Part Name	Part No.
D	1		F1SR35-100A
S	3	Switch(Tape/Tun)	ESH1004
SO	1	Solenoid	EXP1008

Miscellaneous Parts List

Mark	Circuit Symbol & No.	Part Name	Part No.
S	1	Switch(Mute)	ESN1005
HD	1	Head Unit	EXA1163
M	1	Motor Unit	EXA1162

Tuner Amp Unit

	M6300/EW	M6300SDK	M6300/IT	M6200/UC	M6250/ES
IC351	CXA1102P	CXA1102P	CXA1102P	---	---
IC502	PD4302	PD4302	PD4302	PD4343A	PD4343A
IC701	---	KHAC02	---	---	---
Q453, 454	---	DTC114TS	---	---	---
Q506	DTC114TS	DTC114TS	DTC114TS	---	---
Q701	---	DTB123YS	---	---	---
Q702	---	DTC114WS	---	---	---
Q703	---	2SC2458	---	---	---
Q917	---	2SD2037	---	---	---
Q977	2SB1243	2SB1243	---	2SB1243	2SB1243
Q978	DTC114TK	DTC114TK	---	DTC114TK	DTC114TK
Q979	---	---	2SB1243	---	---
Q980	---	---	DTC114TK	---	---
D506	ISS133	ISS133	ISS133	---	---
D508	---	---	---	ISS133	---
D509	---	---	---	---	ISS133
D511	---	ISS133	---	---	---
D700	---	H2S3R0EB2	---	---	---
D907	---	H2S9R1JB2	---	---	---
VR1	---	---	---	CCS1186	CCS1186
VR351, 352	VRTB6VS333	VRTB6VS333	VRTB6VS333	---	---
X701	---	CSS1019	---	---	---
IL951	---	---	CEL1207	---	---
IL952	CEL1208	CEL1208	---	CEL1025	CEL1025
TC501	---	---	---	CCG-070	CCG-070
R300	---	---	---	RD1/4PS472JL	RD1/4PS472JL
R359, 360	RS1/10S181J	RS1/10S181J	RS1/10S181J	RS1/10S151J	RS1/10S151J
R366	RS1/10S103J	RS1/10S103J	RS1/10S103J	---	---
R367	RS1/10S473J	RS1/10S473J	RS1/10S473J	---	---
R369, 370	RS1/10S154J	RS1/10S154J	RS1/10S154J	RS1/10S222J	RS1/10S222J
R375, 381	RS1/10S0R0J	RS1/10S0R0J	RS1/10S0R0J	---	---
R377	---	---	---	RS1/10S0R0J	RS1/10S0R0J
R378	---	---	---	RS1/10S0R0J	RS1/10S0R0J
R379	RS1/10S0R0J	RS1/10S0R0J	RS1/10S0R0J	---	---
R384, 389	RS1/8S0R0J	RS1/8S0R0J	RS1/8S0R0J	---	---
R387, 388	---	---	---	RS1/8S472J	RS1/8S472J
R392	RS1/10S104J	RS1/10S104J	RS1/10S104J	---	---
R473, 474	RS1/10S183J	RS1/10S183J	RS1/10S183J	RS1/10S223J	RS1/10S223J
R540	RS1/10S104J	RS1/10S104J	RS1/10S104J	---	---
R606, 610, 611, 992	---	RS1/8S0R0J	---	---	---
R615	RS1/8S0R0J	RS1/8S0R0J	RS1/8S0R0J	---	---
R701	---	RS1/8S473J	---	---	---
R702	---	RS1/10S684J	---	---	---
R703	---	RS1/10S222J	---	---	---
R923	---	RS1/10S472J	---	---	---
R973	RS1/10S222J	RS1/10S222J	---	RS1/10S222J	RS1/10S222J
R974	RS1/10S152J	RS1/10S152J	---	RS1/10S152J	RS1/10S152J

KEH-M6300

	M6300/EW	M6300SDK	M6300/IT	M6200/UC	M6250/ES
R975	----	----	RS1/8S223J	----	----
R976	----	----	RD1/2PS681JL	----	----
R998	----	----	----	RD1/4PS222JL	----
C358	CEA4R7M35LS	CEA4R7M35LS	CEA4R7M35LS	----	----
C359, 360	CEA010M50LS2	CEA010M50LS2	CEA010M50LS2	JUMPER	JUMPER
C361, 362	CEA100M16LS2	CEA100M16LS2	CEA100M16LS2	JUMPER	JUMPER
C363	CEA470M16LS	CEA470M16LS	CEA470M16LS	----	----
C364	CKSQYF104Z25	CKSQYF104Z25	CKSQYF104Z25	----	----
C365	CEA101M10LS	CEA101M10LS	CEA101M10LS	----	----
C367, 368	CEAR68M50LS2	CEAR68M50LS2	CEAR68M50LS2	----	----
C516	CEAR47M50LS2	CEAR47M50LS2	CEAR47M50LS2	----	----
C525	CCSQCH090D50	CCSQCH090D50	CCSQCH090D50	----	----
C701, 705, 914	----	CEA470M16LS	----	----	----
C702	----	CKPYY103M16L	----	----	----
C703	----	CQMA683J50LL	----	----	----
C704	----	CEAR33M50LS2	----	----	----
C706	----	CEA4R7M35LS	----	----	----
C913	----	CEA220M16LS	----	----	----

FM/AM Tuner Unit

	M6300/EW, IT	M6300SDK	M6200/UC	M6250/ES
Q3	----	----	2SA1162	----
Q51	----	DTA114TK	----	----
D11, 12	----	----	1SV128A-BB	----
VR1	CCP1019	CCP1019	CCP1025	CCP1019
L2	CTF1086	CTF1086	----	----
L11, 12	----	----	CTF1065	----
L101	CTF1126	CTF1126	CTF1170	CTF1126
L201	CTF1084	CTF1084	CTF1026	CTF1026
R3	RS1/10S124J	RS1/10S124J	RS1/10S683J	RS1/10S124J
R8	----	----	RS1/10S331J	----
R9	----	----	RS1/10S223J	----
R10	RS1/10S560J	RS1/10S560J	RS1/10S0R0J	RS1/10S0R0J
R11	----	----	RS1/10S104J	----
R12	----	----	RS1/10S470J	----
R13	RS1/10S0R0J	RS1/10S0R0J	----	RS1/10S0R0J
R14	----	----	RS1/10S0R0J	RS1/10S0R0J
R58	RS1/10S393J	RS1/10S393J	RS1/10S223J	RS1/10S393J
R60	----	RS1/10S473J	----	----
R61	RS1/10S332J	RS1/10S332J	----	----
R101	RS1/10S331J	RS1/10S331J	RS1/10S471J	RS1/10S471J
R151, 152	RS1/10S222J	RS1/10S222J	RS1/10S152J	RS1/10S152J
C11, 12, 13, 14	----	----	CCSQCH220J50	----
C15	----	----	CKSQYB223K25	----
C57	CSZAR33K35	CSZAR33K35	CEAR68M50LS2	CSZAR33K35
C101	CKSQYB822K50	CKSQYB822K50	CKSQYB392K50	CKSQYB392K50
C151, 152	CKSQYB273K25	CKSQYB273K25	CKSQYB563K25	CKSQYB563K25

Key Board Unit

	M6300/EW	M6300SDK	M6300/IT	M6200/UC	M6250/ES
IL902, 904-907, 912	----	----	CEL1207	----	----
IL908-911, 913	CEL1208	CEL1208	----	CEL1025	CEL1025



Service Manual

ORDER NO.
CRT1328

CASSETTE MECHANISM ASSEMBLY

CX-197

NOTE

- This service manual describes operation of the cassette mechanism incorporated in models listed in the table below.
- When performing repairs use this manual together with the specific manual for the model under repair.

Model	Service Manual	Cassette Mechanism Assembly
KE-1700B/IT		
KE-1700SDK/WG		
KE-1730B/EW		
KE-2700B/IT		
KE-2700SDK/WG		
KE-2730B/EW		
KE-1700QR/UC		
KE-2303QR/UC	CRT1327	EXK1710
KE-2750QR/ES		
KE-2033/UC		
KE-2033/XSG/UC		
KE-2828/XSG/UC	CRT1331	EXK1710
KE-2828/ES, UC		
KE-3838/UC, ES		
KE-3838/XSG/UC	CRT1332	EXK1710
KE-3838/XML/UC		
KE-1700B/XML/IT	CRT1336	EXK1710
KE-1730B/XIB		
KE-1730B/XML/EW	CRT1337	EXK1710
KE-1730B/XSG/EW		
KE-2630B/XIB		
KE-2730B/XIB	CRT1340	EXK1710

Model	Service Manual	Cassette Mechanism Assembly
KE-1700QR/XML/UC	CRT1339	EXK1710
KE-3700SDK/WG		
KE-3730B/EW	CRT1326	EXK1720
KE-3700B/IT		
KE-2700QR/UC		
KE-3700QR/UC	CRT1327	EXK1720
KE-3750QR/ES		
KE-4848/ES, UC		
KE-4848/XML/UC	CRT1330	EXK1720
KE-4848/XSG/UC		
KE-250/US		
KE-3033/UC	CRT1332	EXK1720
KE-3033/XSG/UC		
KE-3730B/XIB	CRT1338	EXK1720
KE-4500QR/US	CRT1327	EXK1750
KE-350/US	CRT1330	EXK1750

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XQ103

1. DISASSEMBLY

Note: Always use new washer and E washer at the time of reassembling.

● How to Remove the Belt and Motor

1. Remove screw A fixing the FR lever. (Fig.1)
2. Remove three screws B fixing the sub-chassis unit. Move the unit first in Direction A, then in B direction, and lift it upward for removal. (Fig.2)
3. The belt can now be removed. (Fig.3)
4. Remove two screws C. The motor can be removed. (Fig.3)

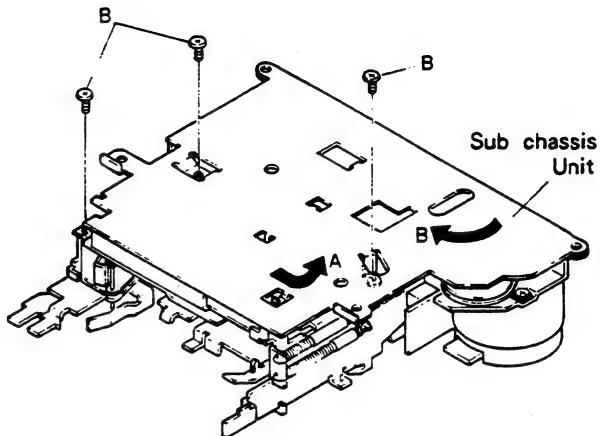


Fig. 2

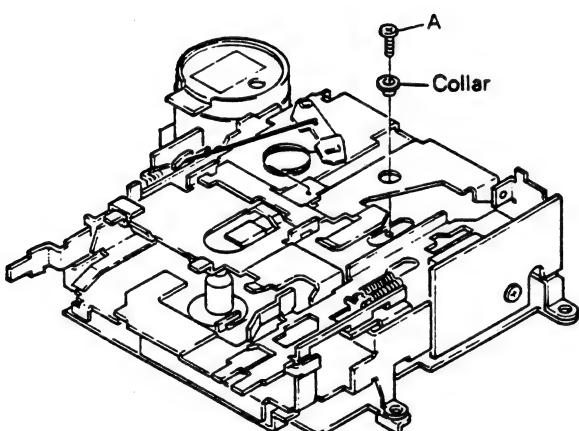


Fig. 1

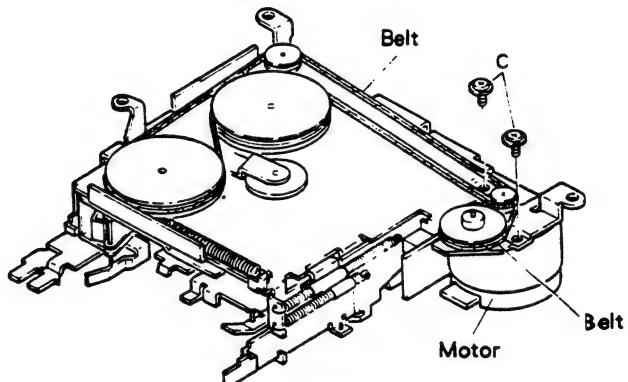


Fig. 3

● How to Remove the Pinch Roller Unit and Head

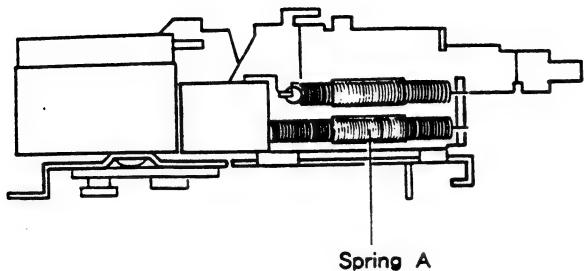


Fig. 4

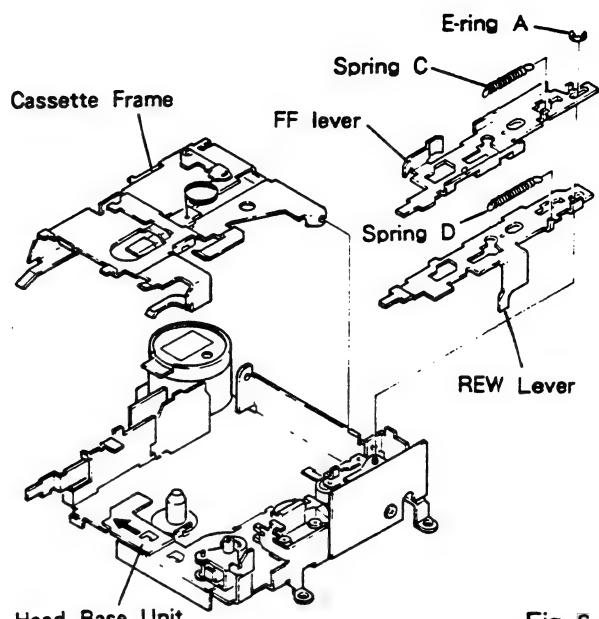


Fig. 6

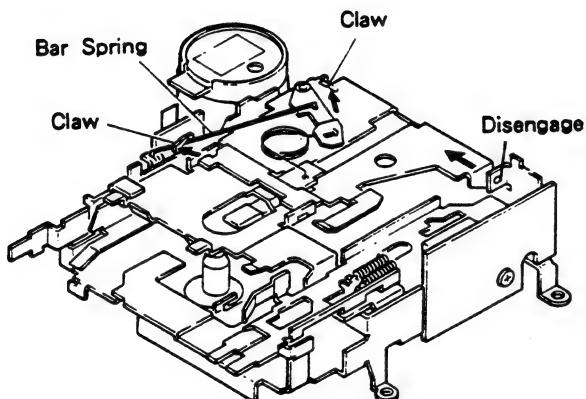


Fig. 5

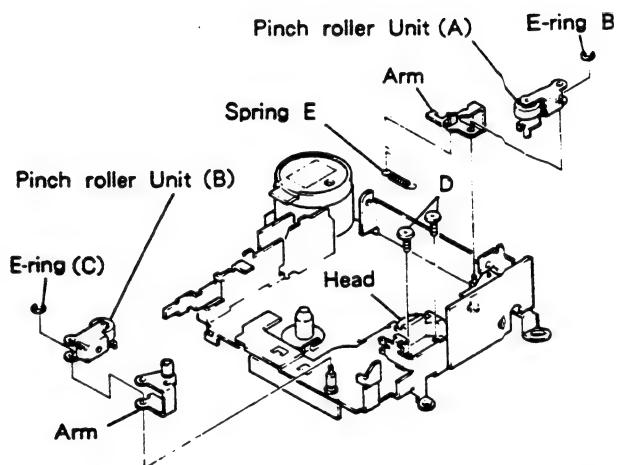


Fig. 7

1. Remove spring A. (Fig.4)
2. Extend claws (2 points). (Fig.5)
3. Remove bar Spring. (Fig.5)
4. Disengage projection by moving in a direction of arrow mark. (Fig.5)
5. The cassette frame is removed. (Fig.6)
6. Remove springs C and D. (Fig.6)
7. Remove E-ring A. (Fig.6)
8. Remove FF/REW levers. (Fig.6)

9. Move head base unit forward. (Fig.6)
10. Remove spring E. (Fig.7)
11. Remove E-ring B. The pinch roller unit (A) can be removed. (Fig.7)
12. Remove E-ring C. The pinch roller unit (B) can be removed. (Fig.7)
13. Remove two screws D. The head can be removed. (Fig.7)

2. ADJUSTMENT

2.1 CHECK POINTS OF CASSETTE MECHANISM

<p>Confirm the following items when replacing parts of the cassette mechanism.</p>	<ul style="list-style-type: none"> ■ Tape speed deviation: $3,000 \frac{+90}{-30} \text{ Hz}$ $(4.76 \text{ cm/s } \frac{+3}{-1} \%)$ <p>Using an NCT-111, measure the speed at the start and end of winding and take the maximum value. If values indicated by the pointer vary considerably, adjust to 70% of the minimum and maximum values. Measuring time shall be 5 – 6 seconds.</p>	<ul style="list-style-type: none"> ■ Wow and flutter: Less than 0.2% (WRMS) <p>Using an NCT-111, measure the wow and flutter at the start and end of winding and take the maximum value. If values indicated by the pointer vary considerably, adjust to 70% of the minimum and maximum values. Measuring time shall be 5 – 6 seconds.</p>
<ul style="list-style-type: none"> ■ Fast forward and rewinding time: $100 - 120$ seconds <p>Using a C-60, set to fast forward and rewind, and measure the time with a stop watch.</p>	<ul style="list-style-type: none"> ■ Winding torque: $35 - 65 \text{ g} \cdot \text{cm}$ <p>Using a cassette type torque meter (100 g·cm), measure the minimum value while in the play mode. Measuring time shall be 2.5 – 6 seconds.</p>	<ul style="list-style-type: none"> ■ F.F. torque: $70 - 120 \text{ g} \cdot \text{cm}$ <p>Using a cassette type torque meter (120 g·cm), measure the value when the tape stops in the F.F. mode.</p>
<ul style="list-style-type: none"> ■ REW torque: $70 - 120 \text{ g} \cdot \text{cm}$ <p>Using a cassette type torque meter (120 g·cm), measure the value when the tape stops in the REW mode.</p>	<ul style="list-style-type: none"> ■ Back tension torque: $2 - 6 \text{ g} \cdot \text{cm}$ <p>After setting in the REW mode without loading a cassette tape for 5 minutes, measure the back tension torque in the play mode, using a cassette type torque meter.</p>	<ul style="list-style-type: none"> ■ Cassette loading force: Less than 0.7 kg <p>Push the center of the cassette and measure the force with a tension meter (3 kg).</p>

2.2 AZIMUTH ADJUSTMENT

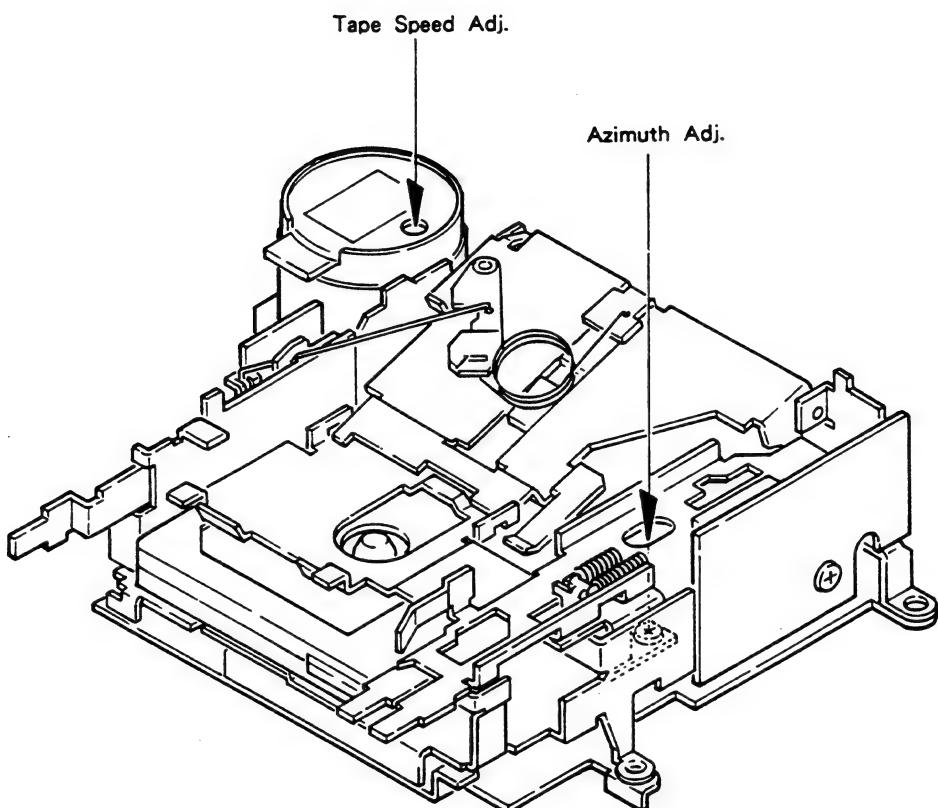


Fig. 8

● To Adjust (EXK1750)

1. Play "A" side of NCT-110 (10kHz, -10dB). Adjust the screw for maximum output in forward and reverse directions.
2. Play "B" side in forward and reverse directions to confirm adjustment.

2.3 TAPE SPEED ADJUSTMENT

1. Reproduce NCT-111 (3kHz, -10dB). Adjust the semifixed resistor so that frequency counter shows 3010Hz (+80Hz, -40Hz).

3. MECHANISM DESCRIPTION

● Loading operation

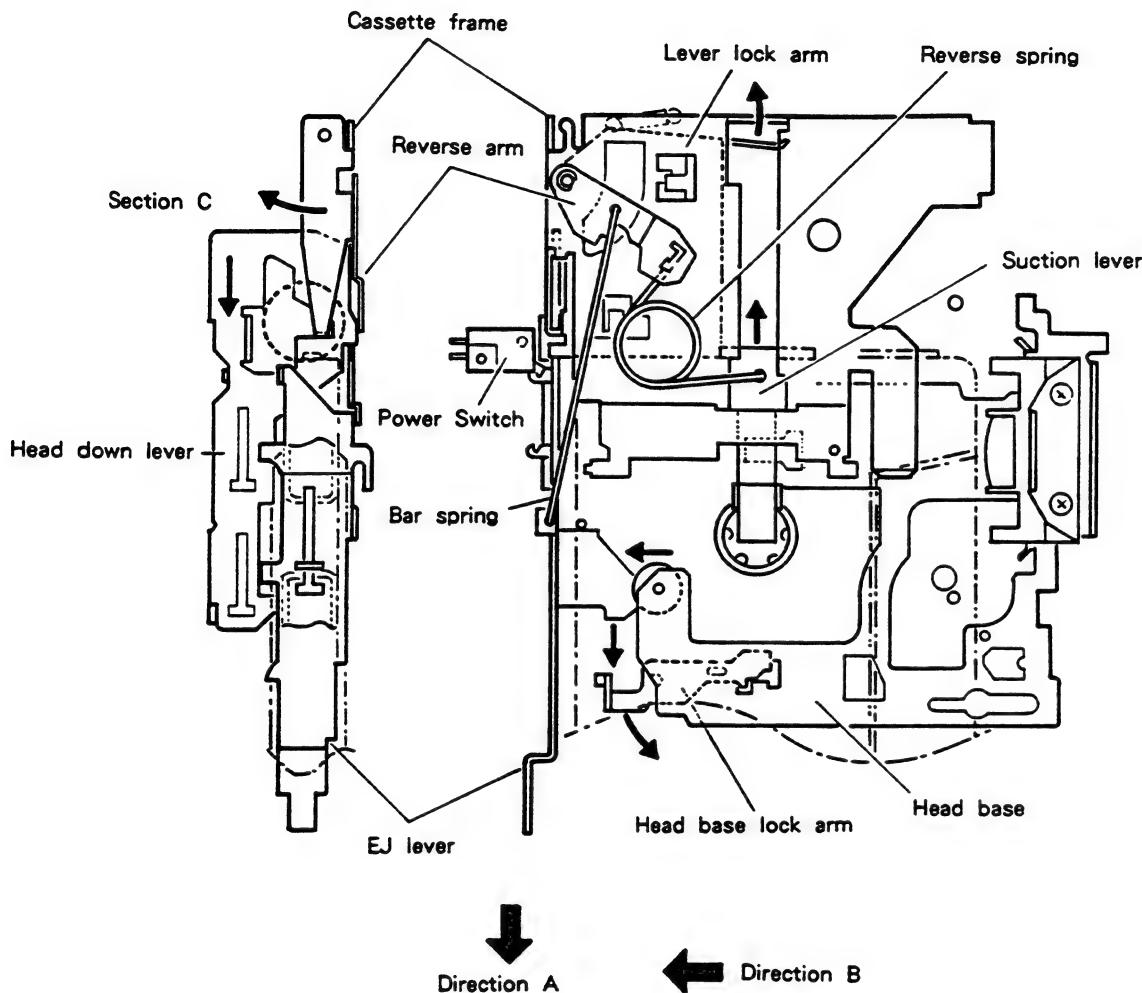


Fig. 9

1. A cassette tape, when inserted, pushes a suction lever. The reverse spring rotates to move past the reverse point. Then, the cassette is drawn by a force of a reverse spring (suction operation).
2. After suction, the lever lock arm is pressed to be unlocked.
3. The head down lever is unlocked and the lever moves in Direction A.
4. While moving, the EJ lever turns ON the power switch.
5. The cassette frame engaged to the section C of the head down lever turns. (Cassette drop operation)
6. At the stroke end, the head down lever turns the head base lock arm.
7. A Stopper of the head base lock arm is released, and the head base moves forward (Direction B).

● MS Operation (EXK1720, EXK1750)

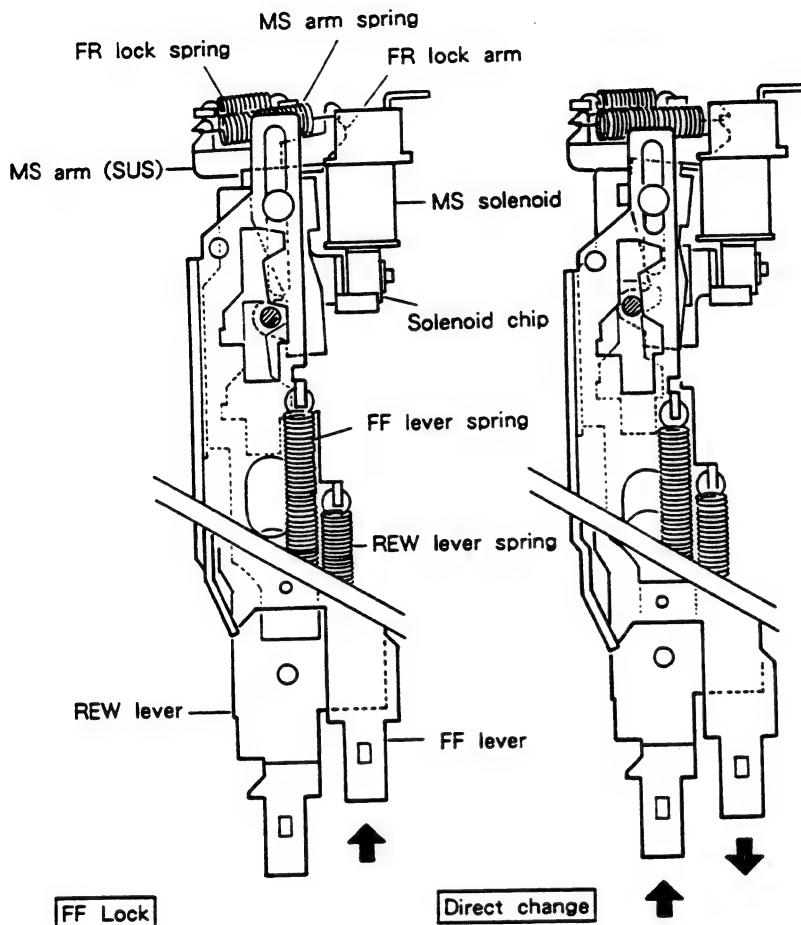


Fig. 10

Direct change

Fig. 11

REW → MS

Fig. 12

1. The MS solenoid is normally energized to attract the solenoid chip during play and F/R operation. The solenoid chip applies counterclockwise force to the MS arm, thereby putting the FR lock arm into rotation via the MS arm spring. The MS lock shaft of FR lock arm unit catches a taper in a different hole of the FF (or REW) lever to lock the FF (or REW) lever.
2. In case of direct change, pressing the unlocked FF or REW lever causes the lever taper to turn the FR lock arm clockwise. This in turn presses the MS arm spring and FR lock spring to release the locked lever.
3. When the no recording section is caught and the power supply to the solenoid is cut off, the solenoid loses the attraction force and disables locking of the F/R lever. As a result, the F/R lever is unlocked. (This unlocking occurs because the force to retain the lever cannot be generated by the FR lock spring only)

● Direction Changeover Operation

(1) FWD play operation

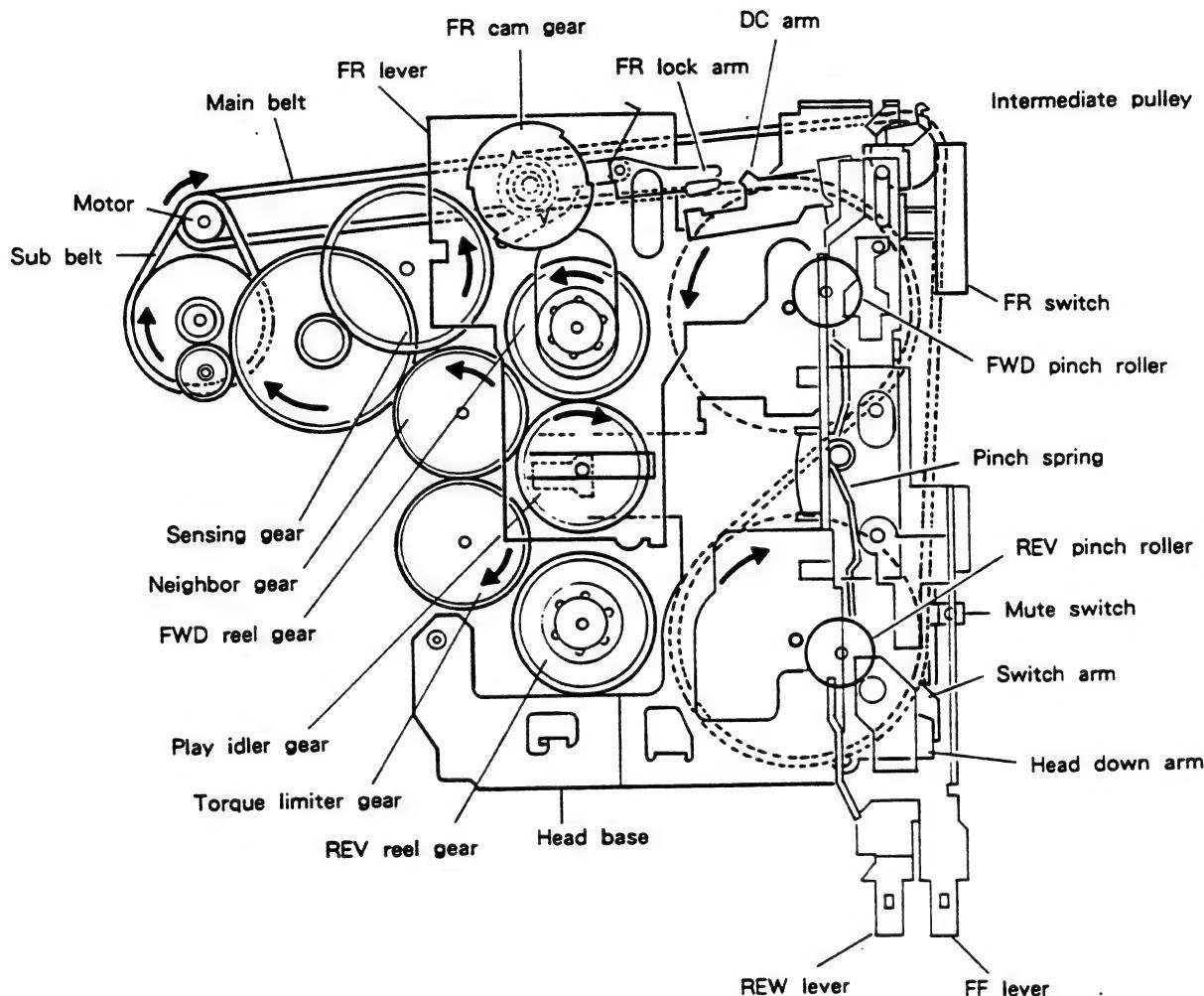


Fig. 13

When the FR lever is in the top position, the pinch spring is in the upper position to press the FWD pinch roller. The FR switch also moves upward and its reaction causes downward force on the FR lever. The spring attached to the FR lever applies upward force to the play idler gear from above to engage it with the neighbor gear and FWD reel gear.

The tape is driven in the FWD direction by a running motor and taken up by the REV reel gear via the torque limiter gear.

(2) Direction change operation

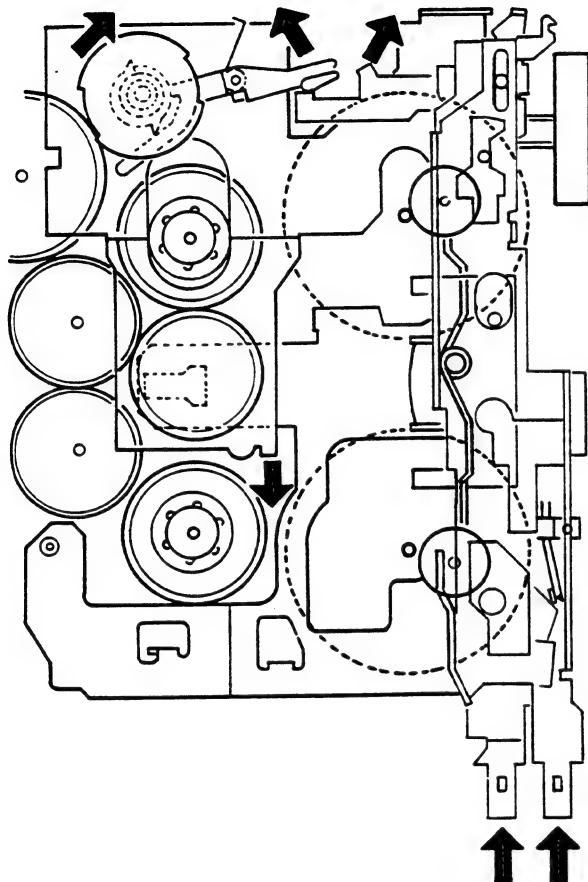


Fig. 14

(3) REV play operation

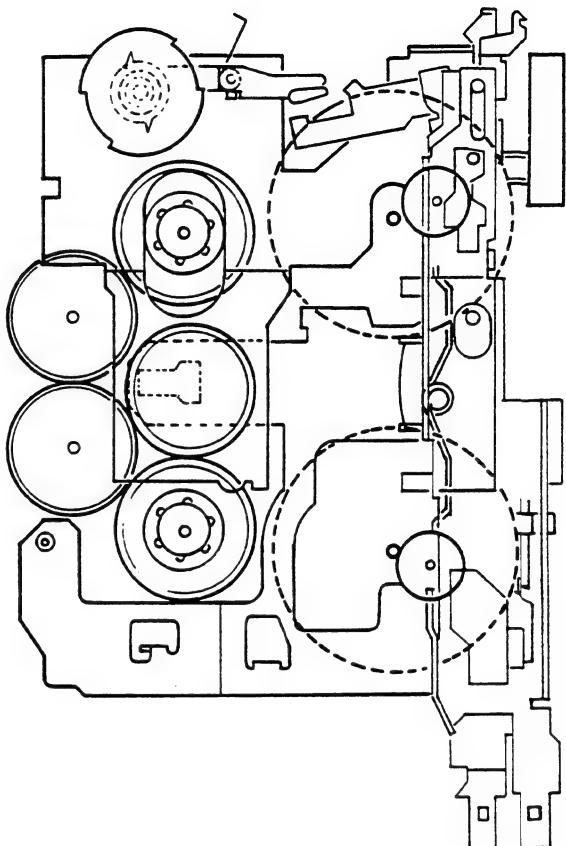


Fig. 15

The direction is changed by pressing FF and REW levers simultaneously. The DC arm turns along a cam groove of FF and REW levers to turn the FR lock arm. As the FR lever applies force from above downward, the FR cam gear turns and the notch meshes with the sensing gear.

As a result, the FR lever moves downward.

When FF and REW levers are kept pressed, the lock arm contacts the outside of the FR cam gear to prevent changeover between FWD and REV. Pressing FF and REW levers also cause the mute switch to be turned ON. In other words, muting is valid while FF and REW levers are pressed. (Fig.14)

Moving the NR lever up and down causes changeover among the pinch roller, FR switch, and play idler gear. With FF and REW levers having been returned, the FR lock arm returns to the normal lock position and locks the gear when the FR gear completes an one-half turn. The mute arm also returns to turn OFF the mute switch. The reverse play state is thus obtained. (The same applies to changeover from REV to FWD.)

● FF/REW Operation

(1) FWD play operation

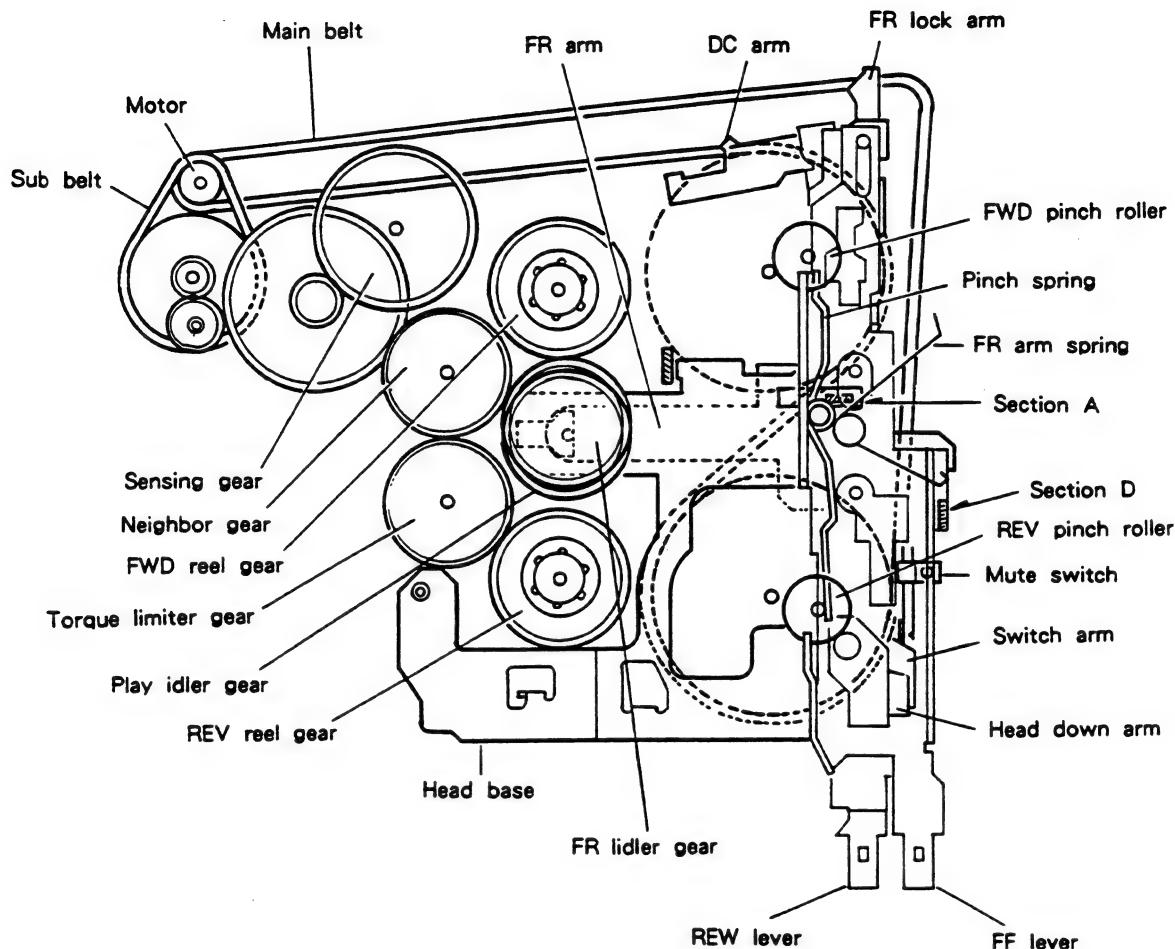
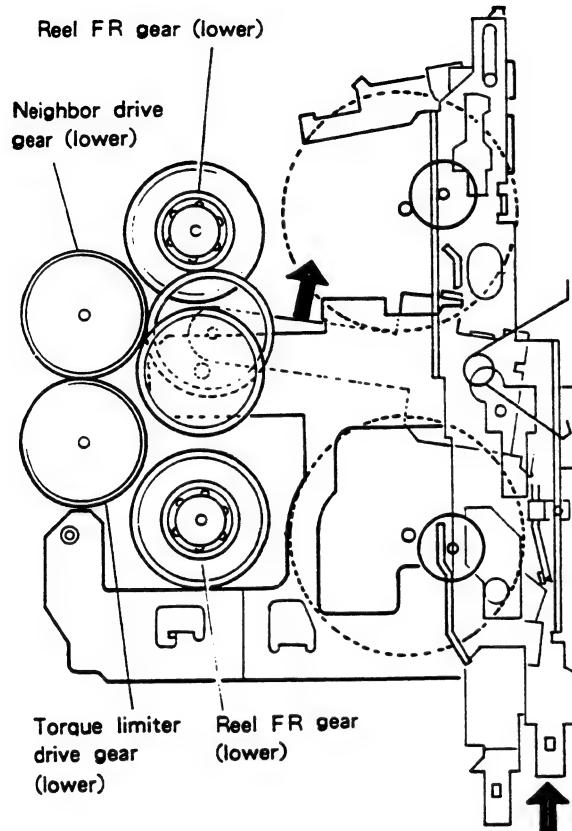


Fig. 15

In the FWD (REV) play state, the head base is fixed by a chassis stopper. The pinch spring presses the pinch roller into contact with a capstan to drive forward the tape. The REV reel gear takes up the tape via the torque limiter gear. In this case, the FR idler gear on the FR arm is centered by Section A of the head base and thus not rotating.

(2) FF Operation



(3) REW operation

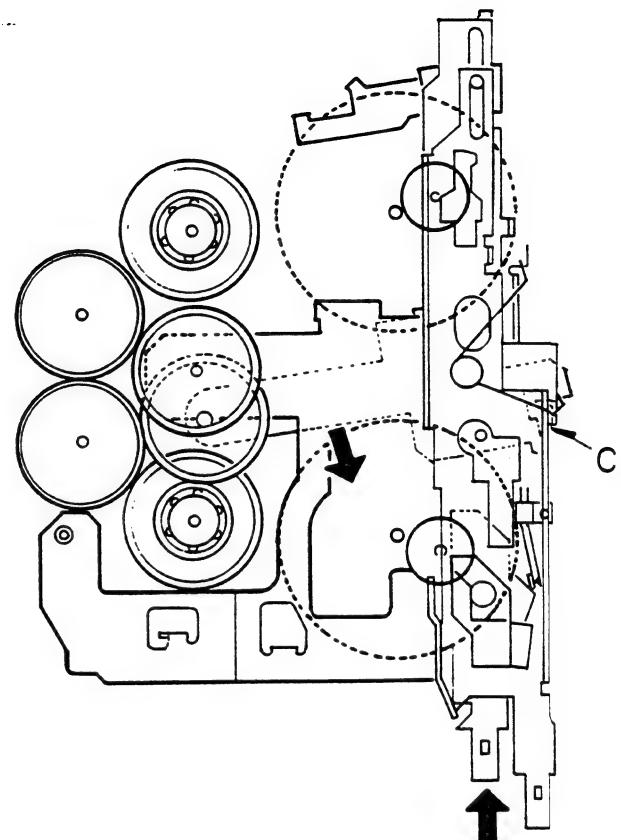


Fig. 17

Fig. 18

FF operation is obtained by pressing and locking the FF lever. As the FF lever is pressed, the switch arm turns to turn ON the mute switch. The head base is moved backward along the FF lever cam groove.

As the head base moves backward to release the pinch roller from the capstan, the play idler gear is simultaneously disengaged from the reel gear. As the head base moves backward, the FR arm centered by Section A is put into rotation by the FR arm spring to engage with the FWD side FR gear.

The FF lever is locked by the FR lock arm and performs the FF operation. (Fig.17)

Similar to the case of FF operation, pressing the REW lever causes the mute switch to be turned ON.

Simultaneously with release of the pinch roller from the capstan, the play idler gear is disengaged from the reel gear.

Section D of the REW lever presses a movable side of the FR arm spring, thereby engaging the FR gear to the FR gear on the REV side.

The REW lever is locked by the lock arm, performing the REW operation. This operation is cancelled when Section C is turned by the lever return spring. (Fig.18)

● Sensing Operation

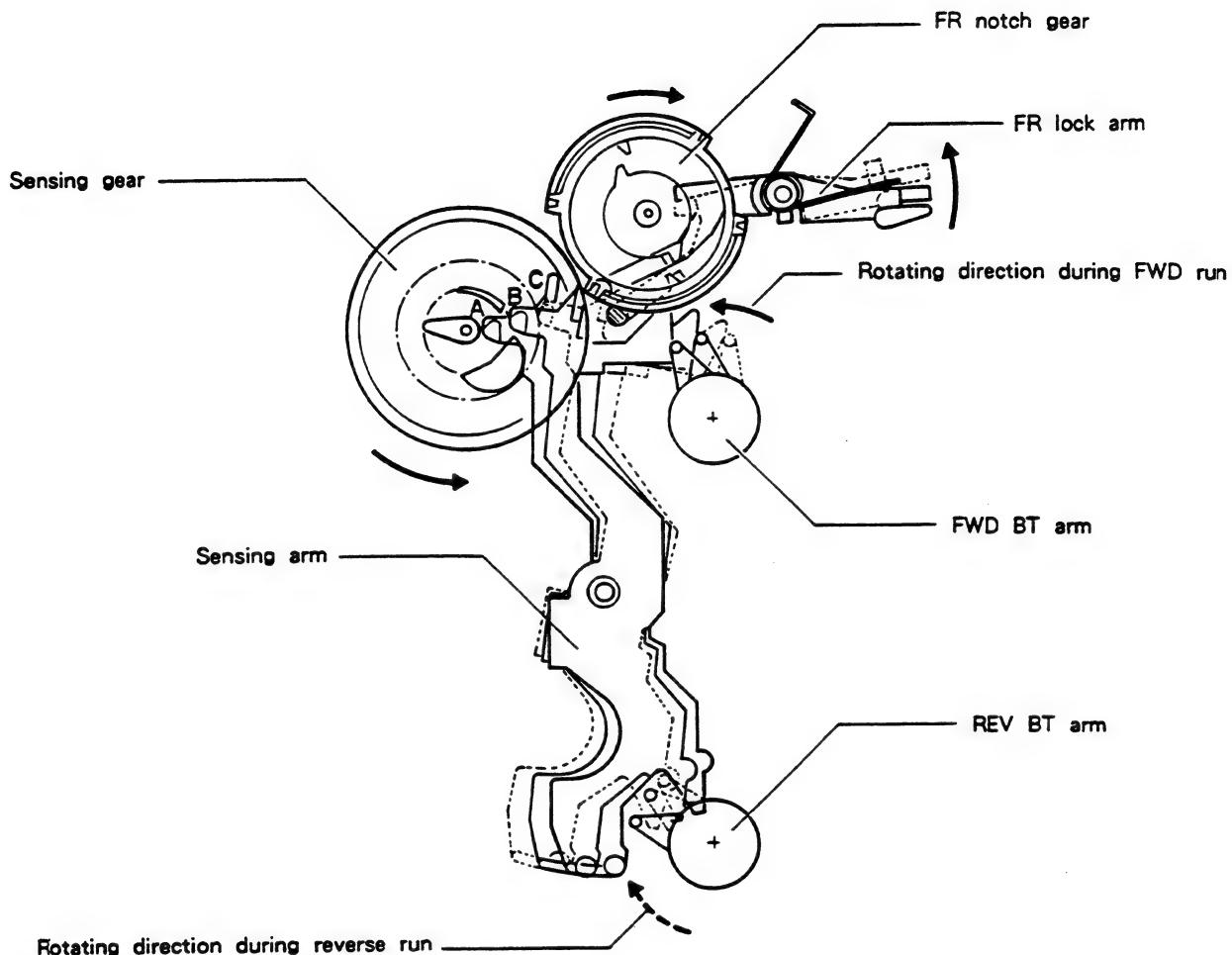


Fig. 19

1. During tape run: The sensing arm keeps oscillation between A and B under a force of the FWD BT arm (or REV BT arm).
2. At end of tape: The force of the BT arm is lost. The sensing arm stops at Position B, then pushed out to Position C by a crescent cam of the sensing gear.
3. Change of run direction: The FR lock arm turns counter-clockwise along with movement of the sensing arm. The FR notch gear is unlocked and begins to turn.

● ATSC Operation

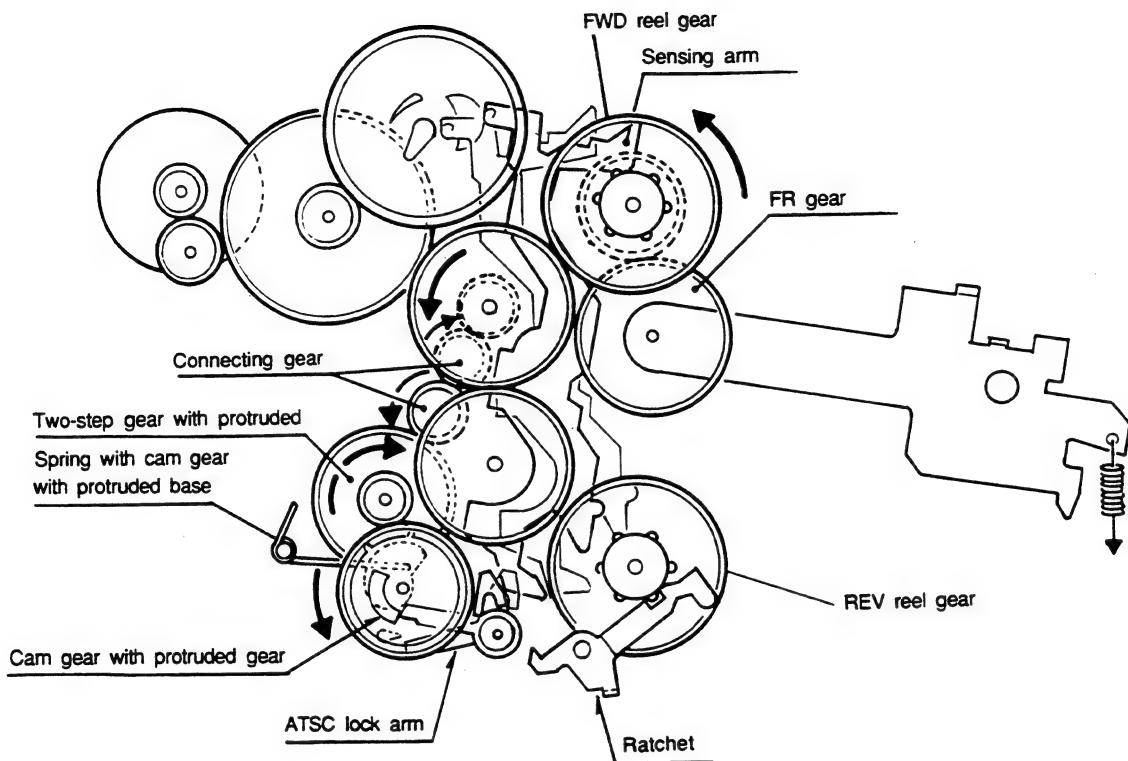
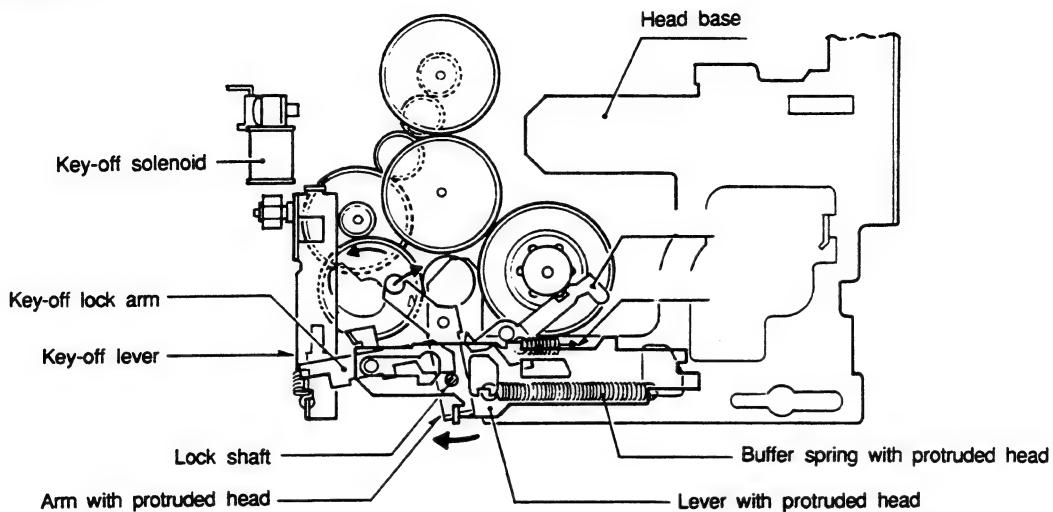


Fig. 18

1. At the position for releasing the head table, the FR gear is meshed with the FWD reel gear. Because the ratchet in the REV reel gear stops rotating, the tape must be wound up until no slack exist.
2. Because the rotation stops when no slack exists in the tape, sensing is performed. The sensing arm presses the ATSC lock arm, and the lock of the cam gear with protruded head gets out of position. Then, the cam gear is made to rotate.

● Key-off Operation

Release Condition



Play Condition

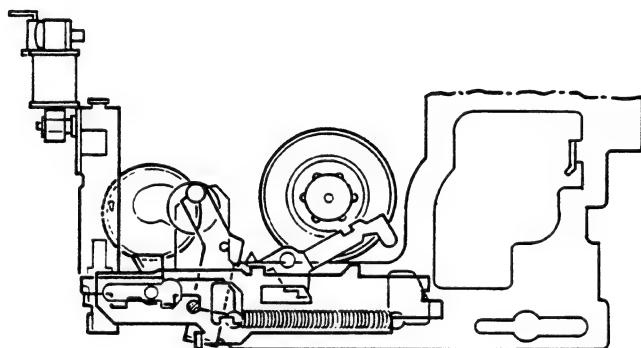


Fig. 19

1. Thrusting head: The arm with protruded head is rotated by the rotation of the cam gear with protruded head, and the lever with protruded head is pushed out. Because the lever with the protruded head and head base are connected by the buffer spring with protruded head, the head base moves forward.

2. Lock for head base:

When the lever with protruded head moves forward, the lock shaft caulked by the lever with protruded head shifts. Thus, the key-off lock arm can rotate, and the key-off lever reaches the key-off solenoid

by force of a spring, and becomes attached. (Although escape power works on the key-off lock arm by force of the head return spring, the solenoid maintains it.)

3. Key-off:

The key-off lock arm is rotated by the power of the head return spring when the key-off solenoid is switched off, and the lever with protruded head and head base move back together.

● EJECT Operation

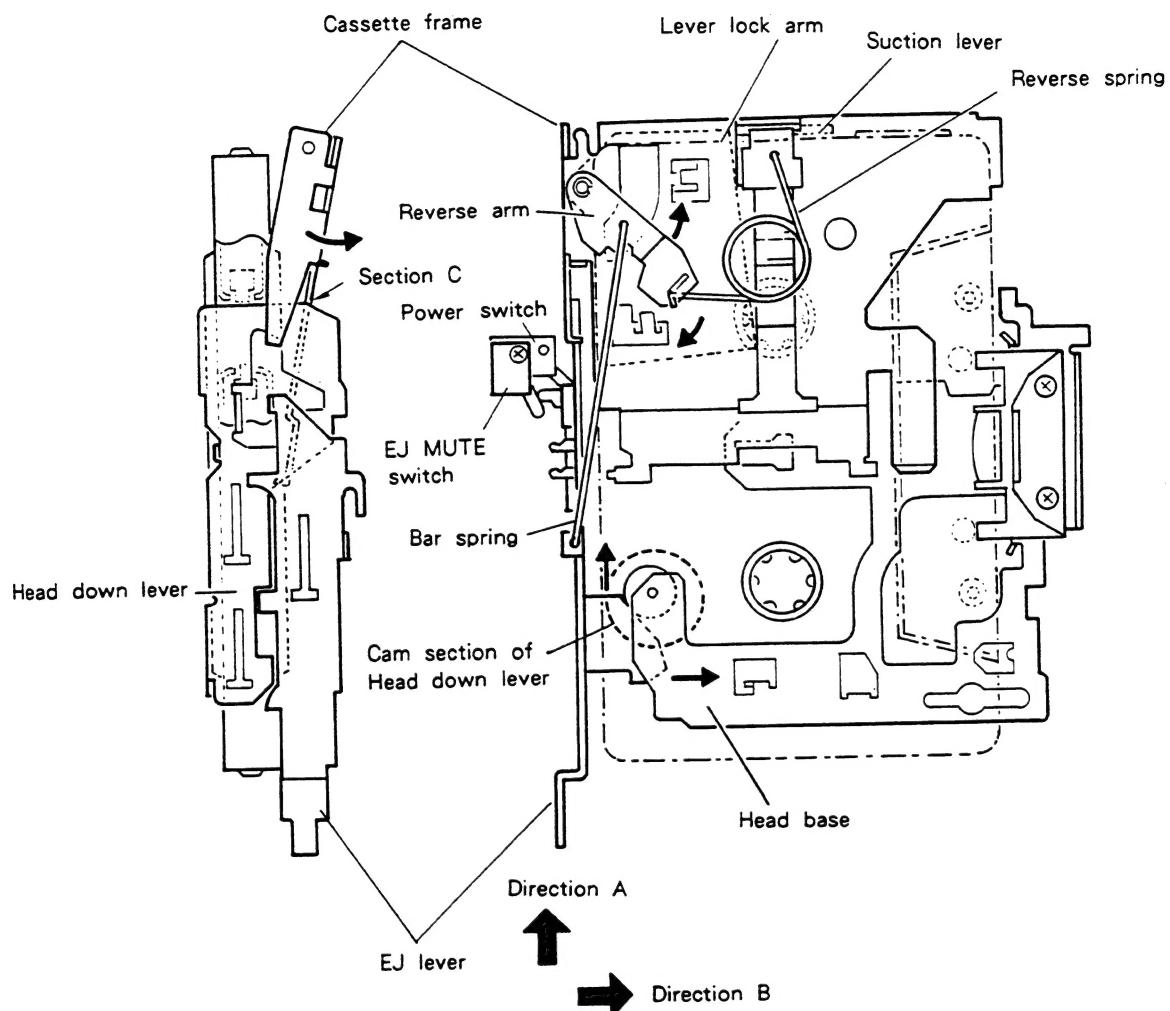


Fig. 20

1. Push the EJ lever in Direction A by hand (EJ MUTE SW ON) At the same time, the head down lever slides in Direction A.
2. The cam section of the head down lever returns the head base in Direction B (head base down operation).
3. Section C of the cassette frame is pushed up by the stroke of the head down lever (push-up operation).
4. The reverse arm is driven in a direction of arrow mark via bar spring by the EJ lever stroke.
5. The reverse spring passes through the reverse position to eject the cassette tape (eject operation).
6. With the EJ lever over-stroking, the lever lock arm can be rotated and locks the head down lever.
7. When released, the EJ lever returns and is stopped by the head down lever.

● EJECT Operation

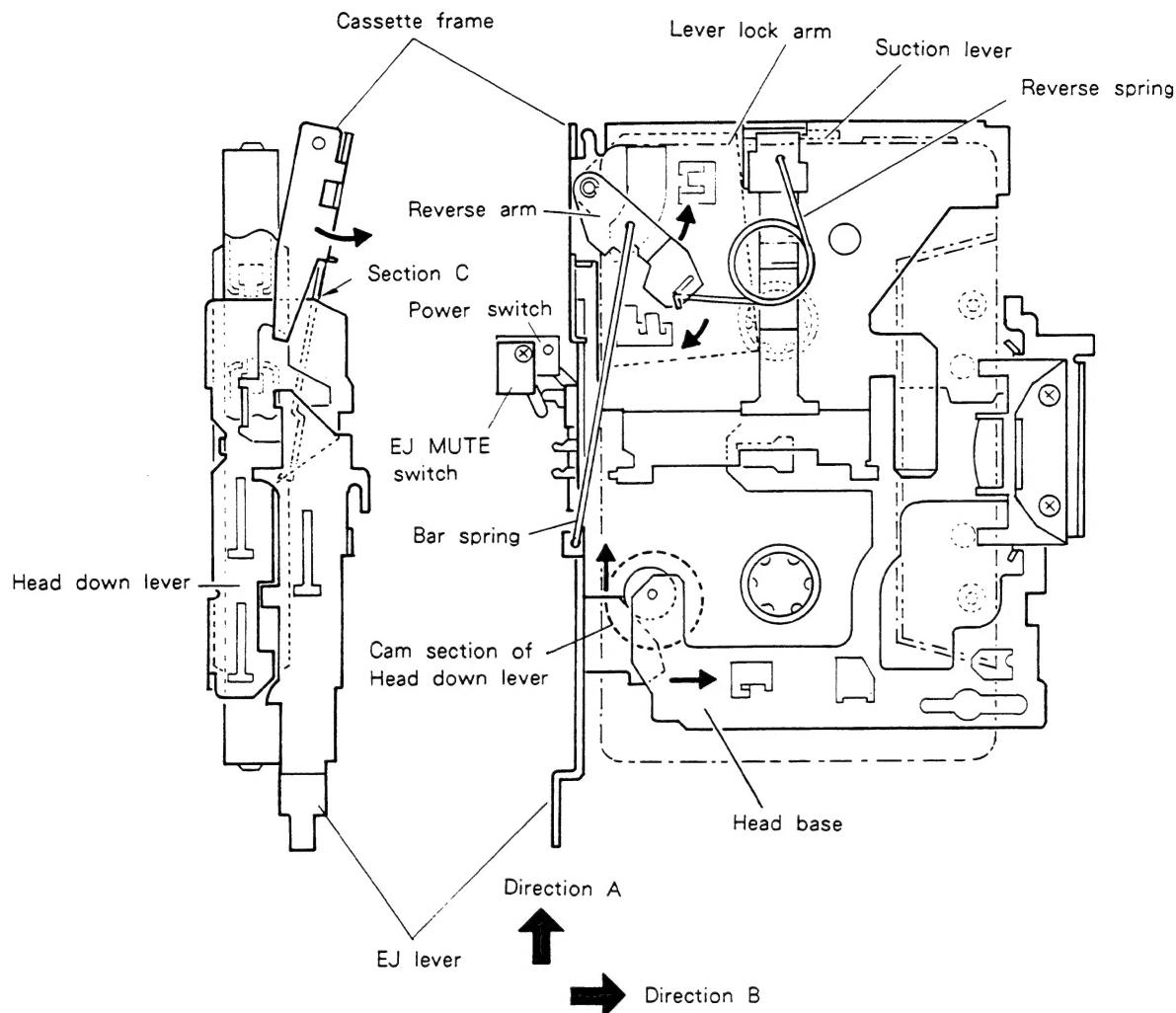


Fig. 20

1. Push the EJ lever in Direction A by hand (EJ MUTE SW ON) At the same time, the head down lever slides in Direction A.
2. The cam section of the head down lever returns the head base in Direction B (head base down operation).
3. Section C of the cassette frame is pushed up by the stroke of the head down lever (push-up operation).
4. The reverse arm is driven in a direction of arrow mark via bar spring by the EJ lever stroke.
5. The reverse spring passes through the reverse position to eject the cassette tape (eject operation).
6. With the EJ lever over-stroking, the lever lock arm can be rotated and locks the head down lever.
7. When released, the EJ lever returns and is stopped by the head down lever.

